

Declassified effects of nuclear weapons and other threats, for minimising terrorist war propaganda

Highly effective, proof-tested cheap civil defense makes nuclear deterrence credible to stop conventional war by avoiding collateral pressure for tit-for-tat escalation). Contrived, lying attacks on civil defense by elitist 1930s Cambridge Scientists Anti-War Group appealed the war-threatening thugs, and (b) maximised war suffering. Saving life in war, saves lives; idealism kills.

Saturday, January 17, 2015

Nuclear weapons effects "firestorm" and "nuclear winter firestorm soot climate change" liars disproved by nuclear tests

"Crimestop ... includes ... failing to perceive logical errors ... and of being bored or repelled by any train of thought which is capable of leading in a heretical direction." - George Orwell, 1984 (Martin Secker & Warburg Ltd, London, 1949, p. 220).

"If a man reads or hears a criticism of anything in which he has an interest, watch ... if he shows concern with any question except 'is it true?' he thereby reveals that his own attitude is unscientific. Likewise if ... he judges an idea not on its merits but with reference to the author of it; if he criticizes it as 'heresy'; if he argues that authority must be right because it is authority ... The path of truth is paved with critical doubt, and lighted by the spirit of objective enquiry... the majority of people have resented what seems in retrospect to have been purely matter of fact ... nothing has aided the persistence of falsehood, and the evils resulting from it, more than the unwillingness of good people to admit the truth ... the tendency continues to be shocked by natural comment, and to hold certain things too 'sacred' to think about. ... How rarely does one meet anyone whose first reaction to anything is to ask: 'is it true?' Yet, unless that is a man's natural reaction, it shows that truth is not uppermost in his mind, and unless it is, true progress is unlikely."

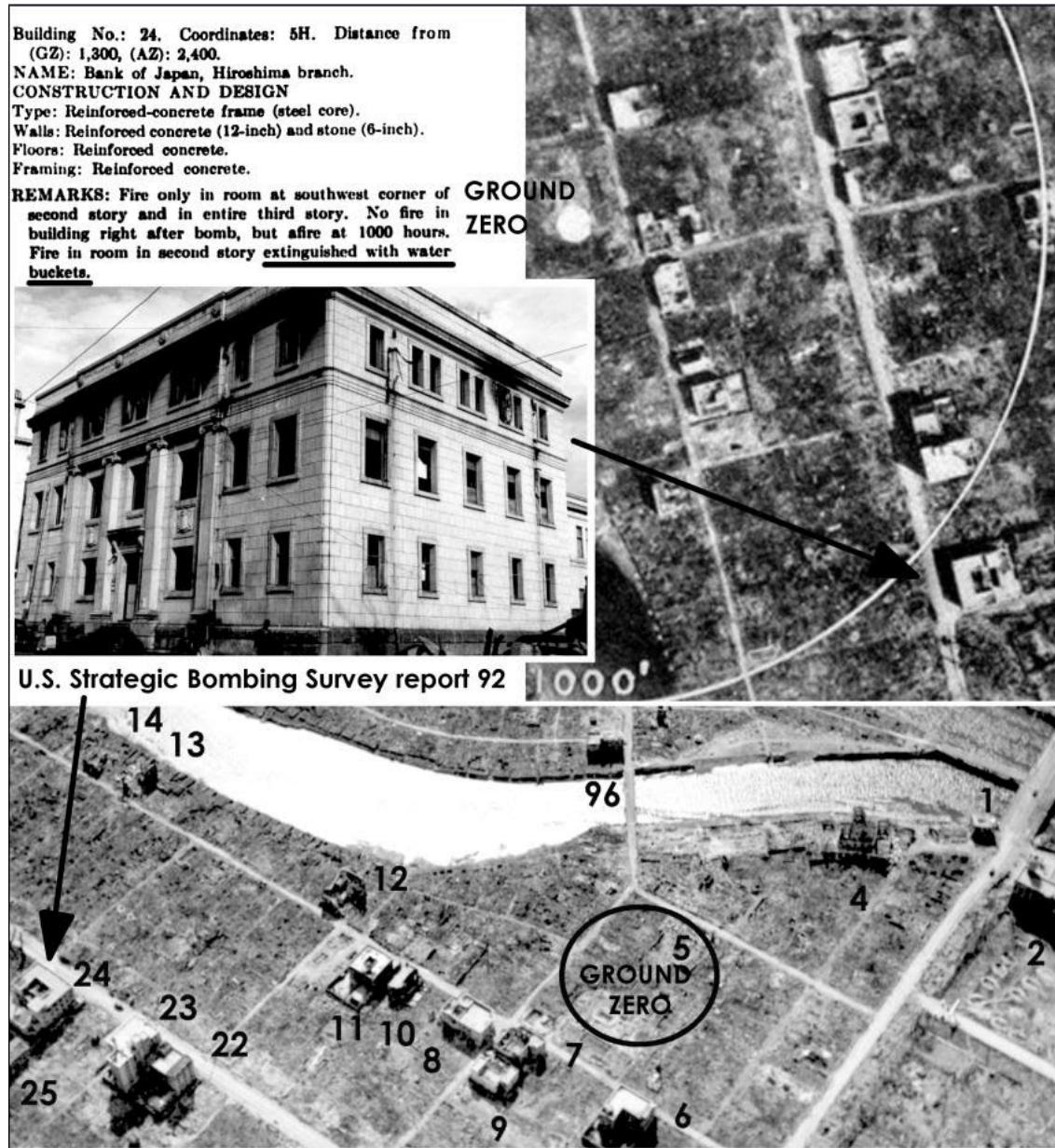
- Sir Basil Henry Liddell Hart, *Why Don't We Learn from History?*, PEN Books, 1944; revised edition, Allen and Unwin, 1972

In 1952, Birmingham firemen made a model of their city on a 144:1 scale and simulated a nuclear fireball with a powerful lamp at the appropriate scaled height of burst for 20 kt at 600 feet. Unlike Hiroshima, where most of the houses were low, 1-2 storey wooden ones with paper screens, easily blast-overturned charcoal braziers (the real cause of the Hiroshima firestorm, which doesn't exist in modern city buildings today), and bamboo furnishings, over 50% of the buildings in Birmingham were completely shaded by a relatively small number of tall concrete or steel framed office buildings usually with fire sprinkler's in them, thus preventing a firestorm/soot nuclear winter. This research therefore succeeded in debunking what Stanbury who had been at the Operation Hurricane nuclear weapon test after dealing with incendiary fire research in WWII, in August 1962 attacked as the television utterances of "renowned academic scientists who know little about fire" (quoted from: George R. Stanbury, OBE, "The Fire Hazard from Nuclear Weapons", *Fission Fragments*, August 1962 issue 3, UK National Archives HO 229/3; more data is in his report CD/SA 121 aka HO 225/121). Stanbury notes that on 20-22 July 1958, the Liverpool fire authority launched the secret *Torquemada Study* of nuclear fire risks from 10 megaton H-bombs. Stanbury concludes: "When the figure of 1 in 2 [houses initially ignited for intense firestorms like Hamburg] is compared with the figures for initial fire incidence of 1 in 15 to 30 obtained in the Birmingham and Liverpool studies, it can only be concluded that a nuclear explosion could not possibly produce a fire storm." (CD/SA 121, linked here in summary extracts form, with comparisons to Hiroshima and Nagasaki and nuclear weapons tests.)

Only a small fraction of buildings had any thermal flash induced fire, and even those that did were only ignited on the uppermost stories in the curtains of windows facing the fireball with a direct unimpeded radial line. Such fires on upper floors *did not spread downwards* (because nuclear bombs don't dump thousands of tons of aviation fuel into the building like the 9/11 aircraft attackers). Heat rises upward, sets off fire sprinklers and that kills all mad theories of firestorms and nuclear winters of soot clouds. It is dangerous complacency to believe that lies will keep you safe from nuclear attack by saving you from realistic thinking. That's the error made by "science fiction moralists" like the popular nonsense-writer and Marxism hyper H. G. Wells exploited in the 1930s, when he mixed up newspaper hyped gas war hysteria with science fiction in his 1937 totally ignorant, pseudoscientific, scare mongering, big money making, war-mongering, pro-Nazi-appeasing film *Things to Come*. This egotistical, narcissistic, lying, propaganda driven, war mongering film by political Marxism nutcase H. G. Wells replaced the communist futurism in his previous piece of political "science fiction" (there was no science in it whatsoever, despite endless drivel to the contrary), *The Time Machine* which helped to popularise communism propaganda in the two decades ahead of the 1917 Red Revolution in Russia! (Remember the 1939 Hitler-Stalin Pact to jointly invade Poland, before claiming that a dictatorship like the USSR which murdered 40 million in the 30s was beautiful and different from the Nazis who murdered 6 million in the 40s.) H. G. Well's 1936 film *Things to Come* promoted gas war hysteria for fascist appeasement in the name of "pacifist" ideals, at the time in 1936 the Nazi threat *could still have been stopped without the deaths of 40 million people including 6 millions Jews gassed not on the streets by gas bombs but in Nazi-collaborator and French Medical Nobel Laureate, eugenicist Dr Alexis Carrell's so-called civilized gas chambers*. Dr Alexis Carrell's gas chambers were recommended in his best selling 1935 book on eugenics, *Man the Unknown*, which of course went down well with a media that judged books not on their merits but on the "credentials of the author" (Dr Carrell was a Medical Nobel Laureate, so was deemed politically correct by a media which confuses dictatorial celebrity authoritative dictatorship for objective scientific facts!). Dr Carrell's gas chamber hype in his 1935 book *Man the Unknown* was reprinted in Germany with an enthusiastic Nazi foreword a couple of years after publication in France, and paved the way for the genocide of the so-called "enemies of the Nazis", for example anyone who did not measure up to Aryan ideals in their racial background or disabilities. Thus, eugenics pseudoscience was not harmless pseudoscience, but directly led to the holocaust, for ethnic cleansing of political "troublemakers" (peaceful opponents of Nazi racism) and Jews. In particular, the rejection of simple cheap civil defense by H. G. Well's propaganda film against deterrence of WWII prejudiced all subsequent civil defence in Britain, *leading to appeasement and operationally ineffective outdoor shelters (water-logged in winter by the ground water table and thus inhabitable, despite offering good blast protection against explosions and debris)*. The same anti-civil defence effect occurs with nuclear war exaggerations hype for propaganda by Hollywood: civil defence is inaccurately dismissed as useless, simply because it would instantly debunk the exaggerations needed by dishonest "knowledge" brokers who stand to earn massive rewards and prizes for promoting lies in the media by closing down genuine debates and important discussions that form alternative courses of action to the dogmatic mythical pipedreams/fairy tales that the public would prefer to believe in. That causes needless war suffering yet is still rewarded by Nobel Peace Prizes, money, book contracts, film contracts, billions of screaming fans, Nazi Rallies of groupthink fanatics who scream Hitler-style against the truth, against facts, and against humanity, and are rewarded richly by politicians who want to be elected on a popular platform people will vote for, and thus have no time for politically incorrect honesty. (**The best Torquemada Study data summary is in the misleadingly-titled obfuscating report Some effects of fallout on the operation of mobile fire columns, SA/PR 62, UK National Archives HO 227/62.**)

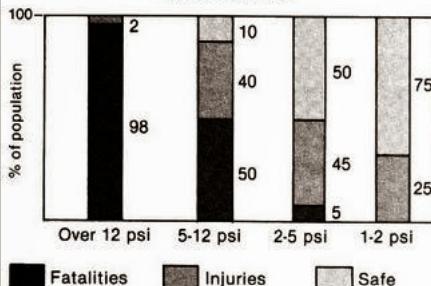


All of the policies and arguments on nuclear weapons and civil defense are wrong if the foundations of those arguments and policies are made of false premises. It's propaganda of the worst sort to go on spluttering that we're constructing arguments when we're publishing factual news. We're deliberately not constructing theories, but merely pointing out proved facts. The only arguments or theories are those being constructed by "critics" who don't want to engage with the facts, just to speculate in ignorance about the motivation of the messenger! Better propaganda would look at the facts we're giving and try to find a plausible sounding dismissal of them, instead of ignoring them. However, it's useful to reveal who the real nutters are, and how many money-making biased charlatan professionals are included in their ranks:



1979 U.S. Office of Technology Assessment, "The Effects of Nuclear War" deceptions**Table 14.—Long-Term Radiation Effects From Nuclear Attacks**

| | |
|---|-------------|
| Estimated worldwide effects from 1-Mt air burst over a city (OTA Case 1): | |
| Somatic effects | 200 - 2,000 |
| Thyroid cancers | about 700 |
| Thyroid nodules | about 1,000 |
| Genetic effects | |
| Abortions due to chromosomal damage | 100 - 1,000 |
| Other genetic effects | 350 - 3,500 |

^b Most worldwide fallout would be in the Northern Hemisphere.**Above: false LNT radiation scaremongering****Figure 1.—Vulnerability of Population in Various Overpressure Zones****Blast exaggeration:** **Table 4.—Casualty Estimates (in thousands) (1 Mt on Detroit)**

| Region (mi) | Area (mi ²) | Population | Fatalities | Injuries | Uninjured |
|-------------|-------------------------|------------|------------|----------|-----------|
| 0-1.7 | 9.1 | 70 | 70 | 0 | 0 |
| 1.7-2.7 | 13.8 | 250 | 130 | 100 | 20 |
| 2.7-4.7 | 46.5 | 400 | 20 | 180 | 200 |
| 4.7-7.4 | 102.6 | 600 | 0 | 150 | 450 |

Exaggerated thermal burns table "arbitrarily" assumes 6.7 cal/cm² is lethal and 3.4 cal/cm² hospitalizes.**This was not true even for light clothing in Hiroshima and for bigger yields even more heat is needed!****Skyline shadowing protects over 90%.****Damage to unreinforced brick house (5-psi overpressure)**

Above: false house collapse (Apple-2 test house after manually demolished!) photo. In fact, outer walls exploded but 1st floor did not collapse at 5 psi, and outward debris motion reduced hazard!

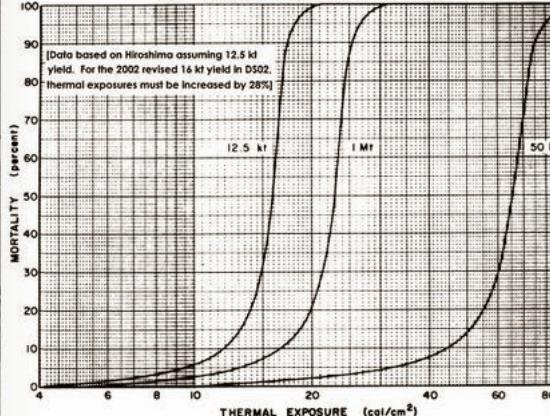
Table 5.—Burn Casualty Estimates (1 Mt on Detroit)

| Distance from blast (mi) | Survivors of blast effects | Fatalities (eventual) | | | | Injuries |
|---|----------------------------|--|---------|--------|--------|----------|
| | | (1 percent of population exposed to line of sight from fireball) | | | | |
| (0-1.7) | | | | | | |
| 0-1.7 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1.7-2.7 | 120,000 | 1,200 | 1,200 | 0 | 0 | 0 |
| 2.7-4.7 | 380,000 | 0 | 3,800 | 500 | 0 | 0 |
| 4.7-7.4 | 600,000 | 0 | 2,600 | 0 | 3,000 | |
| Total (rounded) | | 1,000 | 8,000 | 500 | 3,000 | |
| (25 percent of population exposed to line of sight from fireball) | | | | | | |
| 0-1.7 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1.7-2.7 | 120,000 | 30,000 | 30,000 | 0 | 0 | 0 |
| 2.7-4.7 | 380,000 | 0 | 95,000 | 11,000 | 0 | 0 |
| 4.7-7.4 | 600,000 | 0 | 66,000 | 0 | 75,000 | |
| Total (rounded) | | 30,000 | 190,000 | 11,000 | 75,000 | |

These calculations arbitrarily assume that exposure to more than 6.7 cal/cm² produces eventual death, and exposure to more than 3.4 cal/cm² produces a significant injury, requiring specialized medical treatment.

Exaggerated blast effects table ignores modern city concrete buildings which resist blast collapse

L. Wayne Davis, Donald L. Summers, William L. Baker, and James A. Keller, *Prediction of Urban Casualties and the Medical Load from a High-Yield Nuclear Burst*, DC-FR-1060, The Dikewood Corporation

PROMPT-THERMAL MORTALITY CURVES FROM SURFACE BURSTS FOR OUTSIDE-UNSHIELDED PERSONS**Shirt protection: Nagasaki****Uniform protection: Hiroshima****PROTECTION AGAINST RADIANT HEAT. This patient (4 feet from ground zero when the rays struck him from the 1 against bare torso.****Above: Hiroshima soldier on (1946 USSBS report on Hiro**

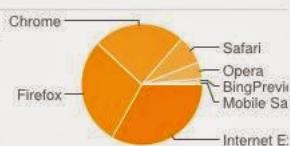
Pageviews by Countries



| Entry | Pageviews |
|----------------|-----------|
| United States | 434916 |
| United Kingdom | 60637 |
| France | 59044 |
| Germany | 35203 |
| Ukraine | 25327 |
| Russia | 17190 |
| Canada | 17144 |
| India | 15448 |
| Poland | 8745 |
| China | 5827 |

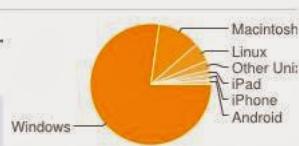
Pageviews by Browsers

| Entry | Pageviews |
|-------------------|-----------------|
| Internet Explorer | 307779 (33%) |
| Firefox | 265170 (28%) |
| Chrome | 224736 (24%) |
| Safari | 70705 (7%) |
| Opera | 38684 (4%) |
| BingPreview | 9448 (1%) |
| Mobile Safari | 5076 (<1%) |
| Mobile | 838 (<1%) |
| GranParadiso | 748 (<1%) |
| Diffbot | 729 (<1%) |



Pageviews by Operating Systems

| Entry | Pageviews |
|------------|-----------------|
| Windows | 712121 (76%) |
| Macintosh | 106733 (11%) |
| Linux | 47549 (5%) |
| Other Unix | 18556 (2%) |
| iPad | 15853 (1%) |
| iPhone | 12943 (1%) |
| Android | 10117 |



Above: deluded propaganda debunked. It's not being debated, just ignored. Democracy doesn't work when debates are "closed down" by scaremongering fanatics who use fear and superstition today in the same way it has always been used, to intimidate the ignorant into accepting a political dogma which is not based on the facts, the relevant facts, and the whole truth. Who cares about the truth?

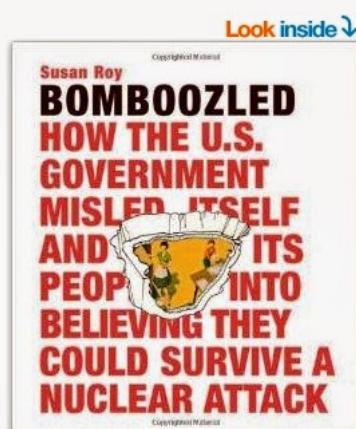
Bomboozled: How the U.S. Government Misled Itself and Its People into Believing They Could Survive a Nuclear Attack

Hardcover – April 16, 2011

by Susan Roy ▾ (Author)

7 customer reviews

Conceived by a misguided government seeking to quiet the fears of an anxious public, the concept of the Family Fallout Shelter was Cold War paranoia at its finest, a massive bit of propaganda by architecture that has no more truth behind it than the absurd notion of duck and cover. Inundated with government-sponsored films, posters, booklets, traveling caravans and exhibitions, the American family bought into the idea, investing millions of dollars in home shelters of every conceivable material and design. *Bomboozled: How the U.S. Government Misled Itself and Its People Into Believing They Could Survive a Nuclear Attack* lays bare the buried truths of America's family fallout shelter obsession. Author Susan Roy charts the panic-fueled evolution of the shelter from a well-stocked basement pantry to a full-fledged (and often completely decorated) home addition, revealing through extensive archival photography, nuclear-era memorabilia, and previously unpublished media, a government and people in the grip of self-delusion. Fastidiously researched and sharply written, *Bomboozled* captures the absurdity and uncertainty of a culture that knew no better than to trust its government's message. Susan Roy is a writer and editor on architecture, design, and cultural history. The founding managing editor of Allure magazine, she has also held senior editorial positions at This Old House, SELF, Good Housekeeping and Avenue. She holds a master's degree in architectural history from Columbia University; *Bomboozled* is loosely based on the subject of her master's thesis, *The Family Fallout Shelter During the Cold War*.



PLASTIC SHEETING & DUCT TAPE

The Cold War officially came to an end on Christmas Day, 1991, when Soviet President Mikhail Gorbachev signed the decree that brought the existence of the U.S.S.R. to an end. The war between the Superpowers was over.

Now, twenty years later, we continue to live with the fearsome legacy of that conflict: the nuclear bomb. The Ploughshares Fund, a foundation whose goal is the elimination of all nuclear weapons, estimated last year that the United States has 9,600 nuclear weapons and Russia has 12,000, and that 2,200 of these weapons in both countries are on "high alert"—ready for use at short notice.

We are living with another legacy of the Cold War: the government policy of "emotion management." After the Sept. 11, 2001, Al Qaeda terrorist attack that killed nearly 3,000 people, Americans were bewildered, confused, upset, uncertain, and frightened—just as they were in the early years of the Cold War, after the U.S.S.R. developed its atomic bomb.

In an attempt to calm the fears of Americans, the George W. Bush administration delivered messages straight out of the 1950s Civil Defense playbook. It acknowledged the threat and the possibility of an attack, just like the 1950 Civil Defense film, *Survival Under Atomic Attack*. Then, it told citizens to "be prepared" by

OPPOSITE This illustration of a "shelter-in-place" came from the Federal Emergency Management Agency (FEMA) website, www.ready.gov. When warned of a nuclear, biological, or chemical attack, a citizen is directed to go inside one room of his residence and cover all vents, windows, and doors with plastic sheeting and duct tape to seal out contaminants. It is the modern-day equivalent of the family fallout shelter.

assembling a three-day supply of food and water, a battery-powered radio, and a change of clothes.

A few months later the White House introduced a color-coded "terror alert" system to advise Americans about the relative level of threat. The five-level color-coded scale went from "low risk" (green), up to "severe risk" (red). It was every American's job to be aware of the nation's "threat level," but exactly what they were supposed to do was unclear. Critics argued that the alert system was merely a political tool created to scare Americans into supporting the Bush administration's War on Terror, including its controversial invasion of Iraq. On February 7, 2003, citing classified intelligence reports, President Bush raised the terror alert level from "elevated" to "high." A panicked nation sought guidance. What could Americans do to protect themselves?

In the event of a biological, chemical, or "dirty bomb" attack, Homeland Security Secretary Tom Ridge told citizens they should go inside a designated "safe room" in their home, and cover all vents, doors, and windows with plastic sheeting and secure it to the walls with duct tape. Ridge's announcement alarmed Americans and set off a national run on plastic sheeting and duct tape. Stores were sold out within days. His recommendations also provoked outrage and ridicule. New York City Mayor Michael Bloomberg called them "preposterous." Television comedian Jay Leno cracked, "This means the only people who are going to survive an attack are serial killers. Who else has duct tape and plastic sheeting in their car?"

Chastened by the criticism, the administration shifted its tone. On February 19, 2003, Secretary Ridge introduced a Civil

Defense-style preparedness program called the Ready Campaign. "Today, America's families declare: We will not be afraid and we will be ready," Ridge said. "Make a kit! Have a plan! Get informed!"

The Ready Campaign, the terror alert system and the safe room, like the 1950s Civil Defense programs that preceded them, are all examples of "security theater," a phrase coined by security expert Bruce Schneier in 2006 to describe a measure that creates an illusion of security without actually providing any protection. To respond to public demands for increased airport security after 9/11, the federal government created the Transportation Security Administration (TSA), which nationalized airport security functions. Tens of thousands of security screeners were hired and a dizzying panoply of equipment was installed at a cost of billions of dollars a year. Meanwhile, uninspected traffic, cargo and people moved freely through the nation's ports, train stations, and highways.

Suspecting that the TSA was nothing more than a very elaborate form of security theater, in 2008, Jeffrey Goldberg, a writer for the *Atlantic*, decided to test the system. In an article called, "The Things He Carried," Goldberg detailed the prohibited items he brought through TSA checkpoints, all of which went undetected by screeners, including pocket knives, lengths of rope, bottled water, and a box cutter. He was even able to board a plane using a fake boarding pass, without a photo I.D., while wearing an Osama Bin Laden t-shirt!

So next time you are at the airport, enduring a hands-on "pat-down," or standing barefoot inside a full-body scanner, you might ask yourself: Is this keeping us safe, or are we merely being bamboozled all over again?

www.amazon.com/Bamboozled-Government-Believing-Survive-Nuclear/dp/0982358571,

Above: Susan Roy's 2011 book *Bamboozled* falsely claims that fallout radiation can't be stopped by simple shielding and that **simple plastic sheeting and dust tape - the scientific evidence for which we published on internet archive in August 2012** - which a year later could have saved hundreds of lives in the 21 August 2013 Ghouta suburb sarin nerve gas attack during the Syrian civil war, after windows were blown by explosive blast, are somehow ridiculous. **She simply omits the scientific evidence proving the use of duct tape and plastic sheeting.** She also **ignores the WWII British evidence from conventional and nuclear attacks for cheap improvised civil defence lifesaving effectiveness even if houses are completely flattened beside a crater, which again are useful for conventional war.** At some point, people will have to stop falsely ridiculing and laughing at needless suffering, and to stop political propaganda about bringing sides together that want to kill one another, and start saving civilian lives with affordable, quick, cheap civil defence, while wars burn themselves out. Sophistry in this situation requires a sick sense of humor, deserving only a slow handclap. We should censor out this drivel, and permit publication of the truth: the relevant incontrovertible facts.

3. THE WATER COLUMN AND THE CLOUD

3.1. Water was first observed from H 1 emerging from the fireball at an angle of about 60° to the horizontal after about 0.1 seconds, Fig. 3.1. Its height above sea level at this stage was about 650 feet and its vertical component of velocity was 350 feet per second.

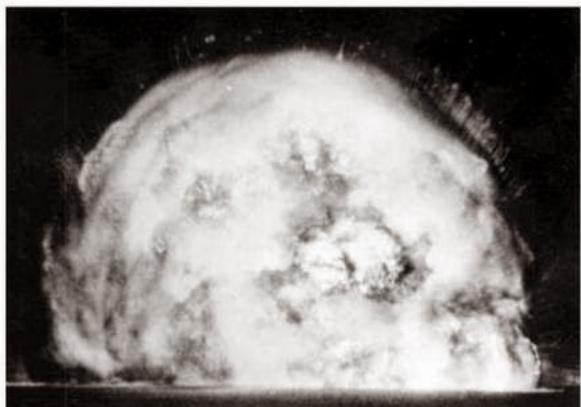


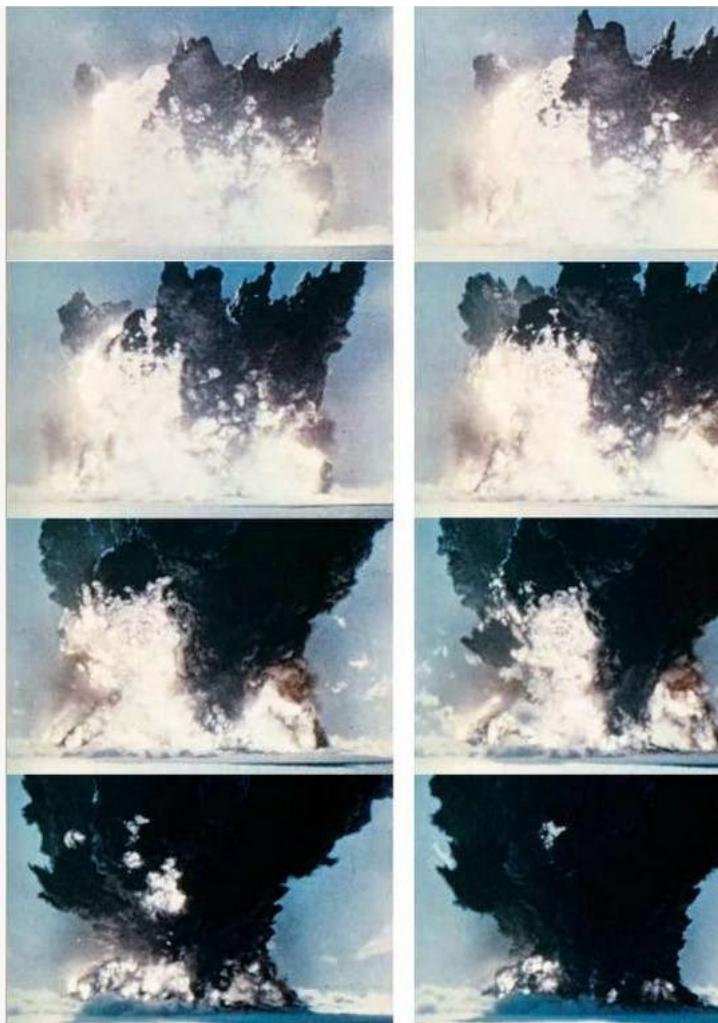
Fig. 3.1, 0.1 second. Water plumes begin to emerge from fireball due to the underwater bubble expansion and cratering.



Plumes of mixed water and black ferrous oxide from ship emerge at 1-2 seconds from the top of the fireball, which cools and fades out at 3 seconds. Last photo is at 5 seconds after burst.

3.2. Fall-out commenced from the side of the column but this did not spread far and was probably not important. The more widespread fall-out came from the bottom of the cloud and fell with an initial velocity of about 65 feet per second reaching sea-level at about 1 minute after the explosion, Figs. 3.8 and 3.9, and continuing for at least ten minutes.

3.4. The top of the cloud rose very roughly as $t^{\frac{1}{3}}$ having a height of about 1,800 feet at 1 second and reaching a maximum of about 10,000 feet at 4 minutes, when its ascent was substantially stopped by a temperature inversion.



Add caption

Russian nuclear weapons tests effects summary for civil defence use

This two-part document, originally titled "Historical Analysis of Atmospheric Nuclear Effects on Experimental Animals during Early Nuclear Tests, Part One and Part Two" (Logachev and L.A. Mikhalkhina, Sarov; Moscow, 1996), describes the effects on animals of atmospheric nuclear weapons tests performed by the Soviet Union at the Semipalatinsk Site. Part 1 describes the air blast and thermal radiation effects. Part 2 covers the effects of primary (prompt) radiation and secondary (fallout) radiation on the test subjects. It also covers combined radiation injuries, defined as a combination of radiation and non-radiation injuries. Several different animal species were used. Animals were emplaced at varying distances from the explosion's epicenter, and in a variety of terrain configurations (open ground, trenches oriented parallel and perpendicular to the blast, etc.) The protective effects of shielding by different military vehicles and buildings were also studied. The types, degrees of severity, and clinical course of illness from the injuries produced were carefully studied in order to understand the pathogenic mechanisms of injury and the likelihood of efficacy of proposed treatment measures. This document also covers special organ effects such as flash blindness and retinal burns. Even though these data are now over fifty years old, many of the conclusions derived from their analysis are useful today in terms of protecting humans from injury and affording good medical treatment of injuries incurred from detonation of a nuclear weapon device.

Extracts from: V. A. Logachev and L. A. Mikhalkhina, *Animal Effects from Soviet Atmospheric Nuclear Tests*, ITT Corp., Alexandria, VA. ADA485845, March 2008 (PDF linked here). The Soviet Union exposed 8,000 animals (40% of these were sheep) in various structures, vehicles, open and shadowed positions, to nuclear explosions in order to assess the effects in different situations, and to different combinations of the nuclear detonations. Instead of simply giving the straightforward data on effects from specific nuclear tests, the data is presented only as points having been combined into three categories of yield range. However, it is still an important report.

In this summary, we have edited out "chaff" to enable attention to be focussed on the useful data contained in the report. The "chaff" we have excluded consists of general, non-quantitative, descriptions that convey no useful information for civil defence, or information that is only relevant to the high-altitude conditions of the nuclear test, i.e. an unobstructed desert with no buildings or city skylines to shield the effects of the thermal flash on the animals. We have excluded initial radiation data since no doses or radiation spectra are given in the report, just counts of radiation sickness to various kinds of animals. This is of no use to civil defence, because the shielding of neutrons and initial gamma rays by a structure is dependent on the type of radiation (neutrons, or gamma rays), the amount of scattering it has undergone when passing through the air (which reduces its energy, making shielding easier) and the weapon design (fusion of tritium and deuterium releases 14.1 MeV neutrons, while fission releases 1.1 MeV energy neutrons from fission).

The information given on blast and thermal effects from the single documented high yield 400 kt low altitude burst on open terrain and in vehicles is of particular value since the report allows the relative life-saving shielding factors due to the various locations of sheep etc to be compared. For a comparison of the Russian and American data on protection from thermal flash by clothing, see <http://glasstone.blogspot.co.uk/2009/08/thermal-radiation-pulse-shape-and.html>

See also https://archive.org/details/Anderson_shelter as well as <https://archive.org/details/BritishNuclearTestOperationHurricaneDeclassified> and <http://archive.org/details/TheEffectsOfTheAtomicBombOnHiroshima>

Update (25 January 2015): Radiating temperatures of fireballs in US and British nuclear tests

There's a new paper published by Robert C. Slaughter, Tyler R. Peery and John W. McClory, "Two-dimensional analysis of nuclear fireball film," *J. Appl. Remote Sens.* 9(1), 095096 (Jan 20, 2015).

Abstract. Researchers at Lawrence Livermore National Laboratory have begun digitizing technical films spanning the atmospheric nuclear testing operations conducted by the United States from 1945 through 1962. Each atmospheric nuclear test was filmed by Edgerton, Germeshausen, and Grier, Inc., using between 20 to 40 cameras per test. These technical films represent a primary source for advancing the knowledge of nuclear weapon output as well as the understanding of nonnuclear high-temperature gases. This manuscript outlines the methodology followed in order to perform two-dimensional temperature calculations for early time nuclear fireballs using digitized film. The digitized optical densities of the film were converted to irradiance on the film that was then used to determine an effective power temperature. The events Wasp Prime and Tesla of Operation Teapot were analyzed using this technique. The temperature results agreed within uncertainties with historic data collected by calorimeters. Results were also validated by comparison to a thermal heat flux solution that utilized thermal yield values to normalize radiant flux. Additionally, digital imaging and remote sensing image generation was used to demonstrate that the two-dimensional temperature calculations were self-consistent.

"Using the process outlined in the preceding section, two-dimensional temperature was determined for the test shots Wasp Prime and Tesla. A mean temperature was then determined for each film. ... The total radiance across the entire film sequence was expanded at later times assuming that the log linear radiant flux decay was constant after ~ 0.5 s and extended out to 20 s, thus ensuring nearly all thermal energy is accounted for. Utilizing this approach, Wasp Prime was determined to have a thermal yield of 1.4 kt. The historical quoted thermal yield of Wasp Prime is 1.6 kt.⁹ Tesla was determined to have a thermal yield of 2.6 kt. The historical quoted thermal yield of Tesla is 2.5 kt.⁹ Both results agree well with the historical data. Both provide further supporting evidence that temperature calculations determined by the two-dimensional power method are consistent with historical data."

The formerly secret report on the 25 kt ship-burst British *Operation Hurricane* nuclear test of 1952 and films of the crater engulfing the fireball from the Maralinga Marloo site test, *Buffalo-Round 2*, led to an interesting passage in the 1956 **Manual of Civil Defence, v1, Nuclear Weapons on how the fireball cools the fireball, lowering the radiating temperature and resulting in more easily attenuated infrared radiation.** Using the Planck distribution, if you average the radiating temperature in a typical air burst (or for sunlight on a clear day), you get about 45% of the thermal energy as visible radiation, 35% as infrared, and 10% as ultraviolet (most of which is quickly absorbed by the ozone smog created from oxygen by the intense initial gamma radiation just outside the fireball). For a surface burst where the cratering ejecta cools the fireball to a mean radiating temperature of around 3000 K within milliseconds, you get 10% of the thermal radiation in the infrared, 10% in the visible band, and next to no ultraviolet emissions. However, as the weapon yield increases, the radius of the fireball increases as a weaker power of yield than the fireball radius at final thermal maximum, so the crater has less effect on shielding the fireball.

The thermal yield therefore varies from 4.5% for a 1 kt surface burst to 17% for a 10 Mt surface burst. The traditional approach in Glasstone ignores this physical mechanism and is therefore grossly misleading when nuclear terrorist attacks of low yields in cities are evaluated, even neglecting the Hiroshima shielding effects of modern tall concrete buildings.

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3.1. Water was first observed from H 1 emerging from the fireball at an angle of about 60° to the horizontal after about 0.1 seconds, Fig. 3.1. Its height above sea level at this stage was about 650 feet and its vertical component of velocity was 350 feet per second.

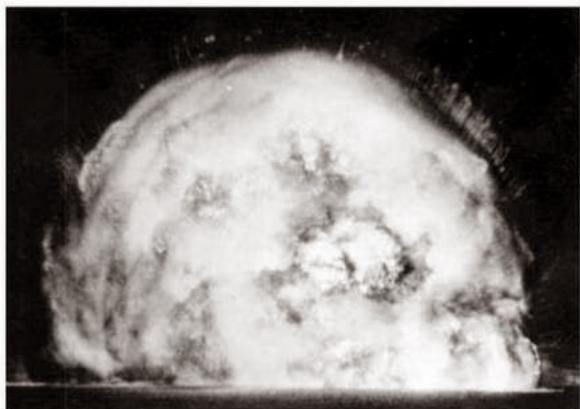


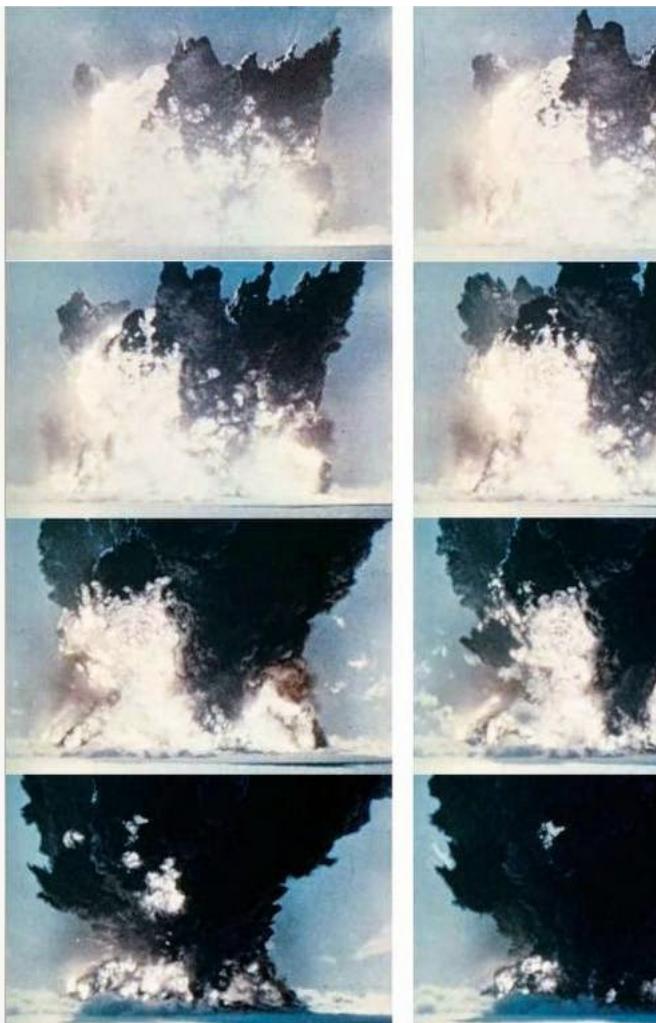
Fig. 3.1, 0.1 second. Water plumes begin to emerge from fireball due to the underwater bubble expansion and cratering.



Plumes of mixed water and black ferrous oxide from ship emerge at 1-2 seconds from the top of the fireball, which cools and fades out at 3 seconds. Last photo is at 5 seconds after burst.

3.2. Fall-out commenced from the side of the column but this did not spread far and was probably not important. The more widespread fall-out came from the bottom of the cloud and fell with an initial velocity of about 65 feet per second reaching sea-level at about 1 minute after the explosion, Figs. 3.8 and 3.9, and continuing for at least ten minutes.

3.4. The top of the cloud rose very roughly as $t^{\frac{1}{3}}$ having a height of about 1,800 feet at 1 second and reaching a maximum of about 10,000 feet at 4 minutes, when its ascent was substantially stopped by a temperature inversion.



Above: <https://archive.org/details/BritishNuclearTestOperationHurricaneDeclassifiedReportsToWinston>

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This paper was prepared for presentation at The Tripartite Technical Cooperation Panel Meeting, Panel N3, held at the Joint Fire Service College, Dorking, England, 5-9 October 1964. The papers are to be published by Defense Atomic Support Agency.

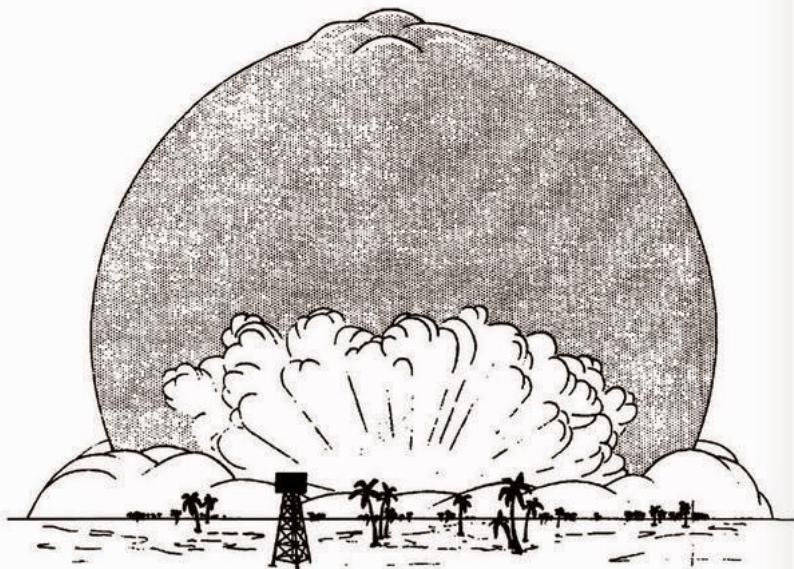
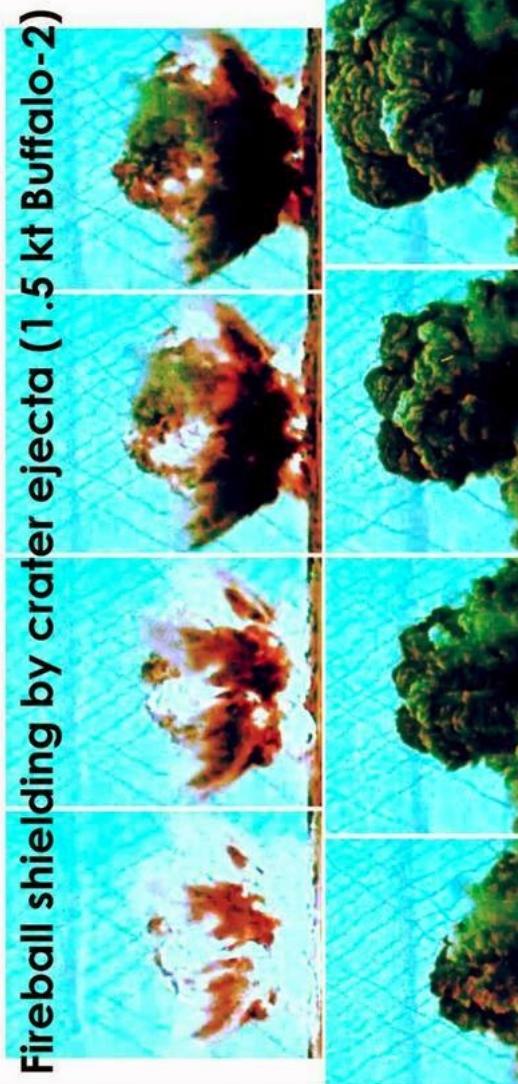


Fig. 20—Surface burst features influencing thermal radiation



Above: <http://archive.org/details/TheEffectsOfTheAtomicBombOnHiroshima>

UPDATE (12 February 2015):

One little brainwave on this subject: since Stefan-Boltzmann radiation law means that the peak thermal power is proportional to the T^4 , it follows that if the thermal pulse shapes of the burst are roughly similar in shape and duration (which we'll now assume to be so, "as a first approximation"), then the total thermal yield radiated by the fireball is proportional to the absolute (Kelvin, not C) temperature of the fireball. Thus, suppose an air burst gives a thermal yield of 35% of the total yield and radiates in a spectrum equivalent roughly to a 60°C fireball, then it follows that a 1 kt surface burst with a thermal yield of only 4.5% (see above post for a link to the source of this figure) would have an effective radiating temperature equal to $6000[(0.045/0.35)^{1/4}] = 3593$ K. So the figures seem to survive a quick back-of-the-envelope check for self consistency.

However, when you look at the photos you can see that the reality may be a bit more complex. Jets of crater ejecta and surface vapor blow-off are cooling the fireball, but it is not clear if they are completely shielding the fireball. Some hot areas of the fireball are less affected, because by chance they are missed by crater ejecta and dust for an appreciable time during which thermal radiation is being emitted. The fireball is not only cooled by dust but is completely blocked from vision by dense plumes of earth thrown up which absorb all of the thermal radiation from that sector of the fireball. This non-uniform mixing is thus to reduce the thermal yield, without reducing the *effective* radiating temperature as much as the Planck law would predict, because of statistical bias: the fireball is also most likely to be completely shielded by plumes, thus contributing nothing whatsoever, while the "hotspots" in the fireball (which presumably remain near the air burst until engulfed with dirt) are the main source of thermal radiation and are biased towards higher Planck temperatures!

There are some curves of air and surface burst thermal spectra in the Northrop EM-1 summary book: Figure 6.19, Effect of altitude on spectral distribution in a Planck radiating temperature of 5000 K (i.e. 0.4 microns predominant wavelength) for a 1 kt air burst, and a Planck radiating temperature of only 2000 K (1.1

wavelength) for a 1 kt surface burst. For further details, see also **Joel D. Johnson, "A Sensitivity Study of Thermal Radiation Fluence from a Nuclear Air Burst,"** AD data on the radiating temperatures and thermal yields of Nevada air bursts see also **A. Guthrie and R. W. Hillendahl, "Operation UPSHOT-KNOTHOLE. Project 8.10. Ph of Thermal Radiation from an Atomic Bomb Detonation," ADA995203.** For vitally important comparison tables of the measured thermal yields and effective fireball temperatures for yields including the 10.4 megatons Mike shot, measured by spectroscopy at American nuclear weapons, both air and surface bursts, see **tables 1 Streets, "Basic Characteristics of Thermal Radiation from an Atomic Detonation", AFSWP-503, AD0327945.** Streets finds (on page 3) that a 20 kt free air burst has a that the thermal yield for an air burst is $0.44W^{0.94}$ kilotons, where W is total yield in kt. In other words, as you go to higher yields, the longer duration of the thermal pulse all mixing to set in, cooling the fireball by convection and cutting down the role of radiative cooling (i.e. thermal radiation). This is born out by the fact that to get the DELFIC first-prize model to match empirical data, Norment and others found they needed to supply one empirical correlation factor, namely that 45% of the energy of a nuclear explosion ends up in cloud convection process!

That's a lot of heat energy ending up *not as thermal radiation but as hot air; convective cloud!* Much of it of course is hot air left behind by the blast wave at very high overpressures still indicates that Glasstone's nuclear effects energy partition "pie graph" in chapter 1 of *The Effects of Nuclear Weapons* is phoney. If 45% of the energy of a nuclear explosion is in the mushroom cloud, then that 45% of the energy is unavailable for starting fires, causing blast damage, etc. Glasstone has oversimplified everything where more clarity is desperately in copious detail on trivia which is totally irrelevant for civil defense (American spelling, "civil defence" for UK).

Streets finds that the average air burst color radiating temperature is 6000 K, and that a surface burst has an average radiating temperature of 3000 K (page v). E.g., from her table George 214.5 kt tower shot test of 1951 at Eniwetok Atoll was measured to have a thermal yield of only 39 kt, about 18% of total yield which is roughly what Glasstone and Dolan find. In the same table, you see that the 1952 10 megaton Mike test gave thermal yields of 16.5%, 15% and 17.3% as measured by the Naval Research Lab (NRL), the Naval Radiological Laboratory and University of California at Los Angeles (UCLA), respectively, an average of 16% thermal yield for the 10 megaton Mike surface burst from three independent radiation spectra. Streets however recognises (on page iv) that surface bursts (or low tower shots) below 250 kt yield produce a much smaller thermal yield fraction than higher yield surface bursts. Streets' Naval Research Lab (NRL) measured a thermal Planck spectrum temperature of 3000 K for the Greenhouse-George nuclear test, 2600 K for 10 megaton Mike (note that UCLA's Mike thermal spectrum giving a color temperature of 2900 K), while the 500 kt King air drop gave a fireball side-on temperature spectrum of 3300 K measured by NRL, as compared to 5250 K as measured by an aircraft flying overhead when the bomb detonated. The toroidal shape of the fireball after a couple of seconds means that the thermal radiation is a function of which you look at the fireball. Looking straight down on a nuclear toroidal fireball from above, you get exposed to the full whack of thermal transmission, the maximum possible area sideways on, whereas looking down from below, you see an area of the toroid which is πr^2 (e.g., 3.14 approximately) times smaller because you're seeing a fireball area equal to the circumference of a circular hollow ring multiplied by its thickness. The difference between the two is the fraction of the fireball area seen from below.

See also High E. DeWitt, *A Compilation of Spectroscopic Observations of Air Around Atomic Bomb Explosions*, LAMS-1935, Figure 4 for the spectrograph of the 18 April 1952 test at 0.1 millisecond, showing the absorption bands in the thermal radiation spectrum caused by nuclear smog consisting of ozone (due to initial gamma rays in air near the fireball) (due to the blast wave at very high overpressures). This "nuclear smog" is useful in absorbing shorter wavelengths like ultra violet rays, thus reducing the problem to civil defense!

For the sake of completeness, a good formula for the shape of the thermal radiation power-versus-time graph (final or main pulse), improved from a simpler idea by Hal Brode, is:

$$P/P_{max} = [3(t/t_{max})^2] / [1 + \{0.7(t/t_{max})^3\} + \{1.3(t/t_{max})^4\}]$$

(Harold Brode's original formula is: $P/P_{max} = [2(t/t_{max})^2] / [1 + \{(t/t_{max})^4\}]$ which is easier to remember but less accurate.)

One other thing. The declassified DASA-1251 fallout data volumes contain a lot of data on fireball maximum sizes and the times of those maximums (obviously, fallout in a air burst the fireball can expand down to the ground before buoyancy sets in and carries it upward). If you tabulate all that data with declassified yields for the tests, you find that the data in corresponds to a time for the final thermal maximum equal to $0.0361W^{0.48}$ seconds, where W is yield in kt. This is closer to the 1957 and 1962/4 editions of Glasstone's Effects of Nuclear Weapons than it is to the 1977 edition's formula $0.0417W^{0.44}$ seconds. Both formulae coincide (simultaneous solution) at 36.8 kt yield. There is an explanation for the confusion in the 1962/4 edition of Dolan on the thermal flash times formulae, to be had in Dolan's 1978 revision of the chapter on thermal radiation in "Capabilities of Nuclear Weapons", EM-1. Basically, Dolan's two-volume EM-1 was to move nuclear effects predictions away from empirical data summaries and into the age of computer simulations of nuclear weapons effects. So during the Vietnam War Dolan had crippled all research funds, lavish efforts were made to produce computer simulations of all nuclear effects and then to proof test the models against actual nuclear weapon effects instead of getting nuclear effects data from plots of test measurements on graphs, you would get the effects data straight from computer simulations, safe in the knowledge that the code was fully verified using nuclear test data to confirm their accuracy! Unfortunately, this failed significantly for thermal radiation because computing power in the 1970s limited the number of calculations they could use (a one dimension fireball model is fine while a fireball is a perfect sphere, but not useful for a toroid, as we have discussed above!), and also the mesh size was too coarse to be modelled properly (discontinuities are introduced, causing instabilities and messy results).

Brode gives a discussion of much of this research in his 1968 nuclear bombs effects simulation paper in the Annual Review of Nuclear Science, v18, pp 153-202. With regards to nuclear effects simulation you need 3-dimensional models that include the hover time to buoyancy and the conversion of the spherical fireball into a convective torus or toroid, which turns itself inside out as copiously in this way by convection. If you ignore the toroid effect, your computer model exaggerates the thermal radiation danger and also produces an inaccurate graph of the shape for high yield explosions, at some seconds after burst. It's for this kind of reason that I'm very suspicious of old 1960s and 1970s declassified theoretical research papers being put into appreciation of empirical data reports from actual nuclear tests! You can't go very far wrong with 1950s nuclear test reports. Some of the equipment they used is now in museums and multiple groups independently measured effects on the same tests to ensure that they didn't succumb to groupthink methodology errors or silly mistakes. It's also far more important to be able to look at an actual H-bomb test like 10 megaton Mike, and discuss how its effects have been falsely exaggerated for propaganda by fascists or Marxists who cater to the media's addiction to sci-fi of the pretentious, narcissistic "Pacifist do gooder" variety which starts world wars by appeasement as demonstrated clearly in the 1930s. Rats of Engebi just 3 miles from ground zero, contrary to the out of context misquotation by Chuck Hansen and his friend Richard Rhodes who - at the very least - didn't bother to check the source book, Neil O. Hines' "Proving Grounds", where Hines concludes that the rats were found to survive and thrive on fallout radiation. Not exactly the populist front page story for CND fascist liars and friends of Stalin to hype out. They want doom-mongering to build pseudoscientific "education" in lies that cause wars. They profit from wars. They profit from those who want to stop wars and suffering in war. They are and they know they are evil people who are ignorant and refuse to learn, think, or do anything realistic that works, preferring to be manipulated by groupthink socialist chanting and abuse of genuine progress and true innovation. And the "freedom of the press" defends their lying and promotes it.

The figures of 3000K and 6000K effective radiating temperatures (for giving the Planck law thermal radiation spectral distributions) from surface bursts and air bursts, respectively, November 1957 Technical Manual TM 23-200, "Capabilities of Atomic Weapons", plus a more technical detailed discussion in the **July 1957 U.K. Home Office Scientific Advisory Committee declassified UK National Archives document HO 228/21, "Report of a course given to university physics lecturers at the Civil Defence Staff College 8-11 July 1957: and their effects; blast from nuclear weapons; thermal radiation..."** Alan G. McDonald's restricted classified paper in that report is on thermal radiation, and discusses the effective temperature in a surface burst upon the thermal radiation spectrum, i.e., increasing the proportion of infrared radiation, which is more easily absorbed by city water vapour (most cities have more humidity due to proximity to a river, lake, ocean, etc due to ancient trade by boat reasons, unlike the deserts where nuclear tests were conducted in the USA and Australia hence the "Encore effect" in the Nevada in 1953 is not representative of city fire ignition!). The restricted paper in that report on blast is by Frank H. Pavry, who surveyed Hiroshima

of the British mission to Japan in 1945, after spending WWII in British air raid shelter design (see the previous blog post for details of Pavry's work in the civil defense research and department headed by Morrison shelter inventor professor Baker). Pavry reproduces the early blast height-of-burst curves and discusses the precursor effect, neither of which are 1957 edition of Glasstone's Effects of Nuclear Weapons (which excludes the precursor - *ironically all anti-nuclear propaganda films about nuclear weapons love to portray popcorn cloud films of low air bursts over dark sand as if they are somehow representative of nuclear weapons over concrete cities, which they are not* - and only gives bursts, free air bursts, and Hiroshima scaled air bursts). Pavry also gives a formula for peak overpressures from a 1 kt free air burst based on empirical data: peak overpressure ($u = 500(R/R)^{2.4}$), where R is distance in feet from a 1 kt free air burst. The report also contains an entertaining introduction by the then head of the UK Home Office Scientific Advisory Committee wartime weaponeer Dr R. H. Purcell, and it is clear that the advanced effects data is based on the exchange of reports with America since February 1954, plus British Hurricane, Totem, Mosiac, Buffalo, Antler, etc.

CENSORSHIP OF FASHION AND GROUPTHINK DOGMA TO ALLOW DISCUSSION OF OBJECTIVE FACT!

We need censorship of lies not facts, and not censorship on the basis of fashion, political "groupthink" bias. Emotional subjectivity always triumphs over scientific objectivity in groupthink (called professionalism, which means the business of technology or exploiting science to make money, rather than actually doing science). Acceptable criticisms in science are camouflaged by unwarranted praise, so that nobody ever loses face. In this way, the lessons aren't learned, but are buried behind firewalls in journals restricted from public access, or kept obscure.

The [previous post](#) touches on the key problem for civil defense. Most people want war left to the military, and war prevention left to the secret security services or ideologues, despite past. When trying to get attention for the facts which should speak for themselves, the standard response is extremely paranoid and deluded: it amounts to claiming falsely that we're not making an argument, which could be presented differently. However, what we want to do is precisely what we are doing, namely calling attention to certain facts because they are important and (b) taboo or widely unknown. In other words, this blog is primarily a news media, presenting verified facts that are not available elsewhere. That's its point. There is no propaganda on the subject, only of vital facts.

Shooting the messenger because the message is delivered in the wrong tone is missing the point, the message itself.

The real problem is, it turns out, not publishing the facts but getting past the evil thugs who censor facts that harm lies from "free debate". **In Nazi Germany, everyone was "free to say whatever they wanted", critics of the Nazis, etc. In fact, if you made a big enough effort to throw filth over the windows of dissenters and Jews, you might even be rewarded or treated with respect than before. For the real mad thickos out there: let me struggle to make this point really clear: "freedom" is NOT measured by how you are treated when in groupthink consensus. It is measured by what happens when you are trying to say something factual that isn't YET fashionable. Got it? I hope that's crystal clear.** that doesn't proudly put up posters encouraging the murder of Jews, but in some ways the fact that so much evil duplicity is COVERED UP makes it even harder to stop. Deaths being done by the manipulation of grain prices by Polar Bear Icesheet-obsessed groupthink Nazis who refuse to enter scientific debates over the percentage which is natural, the errors due to excluding cloud cover's negative feedback on the CO₂ injection, etc. We live in a world which claims it is objective and claims it is speech, but is corrupted and dishonest and doesn't, choosing to add a long list of "exclusion clauses" to the definition of free speech in order to ban any real free speech where it really matters in the interests of a defunct "precautionary principle" which states that censorship of objective facts is vital to prevent the world will end to the risk of allowing free speech to "confuse people" instead of keeping them, fed with biased crap", and this same attitude dismisses anyone who tries to argue for subversive or a "complacent person who is putting at risk the natural world." Godwin's law is then used to try to close down any effort to point out from historical dangers that always occur when a pseudoscience like EUGENICS or AGW climate dogma is turned into a fucking religion!!

The same inversion of morality occurred with the Soviet Union and other dictatorships, where there was complete freedom to criticise Ronald Reagan and Maggie Thatcher as being never be said that dictators are adverse to criticisms, they merely want the right people to be criticised. That's kind of obvious to me, but sadly it's beyond the grasp of most of the think that free speech is something that should never be used to criticise status quo. Well, once you prevent criticisms of the Queen, the Prime Minister, the President, and Bob's Uncle, then you're not being "black balled" when trying to join the club. Once you order people to speak in a given tone of voice, or to write in a certain style, you're being coerced against true individuality and against free independence. Instead of shooting the messenger, we should address the message regardless of the messenger or whether the message is in the back of an old envelope, or printed in the most expensive journal. Too often journalism becomes corrupted into censoring out efforts to expose popular mythology. Once you're defending yourself by shooting messengers, know that you are dealing with evil liars, quacks and charlatans, not real scientists. You're, in short, dealing with professional money-makings before morality, objectivity, freedom, ethics, humanity. Until the eugenicists/pseudoscience charlatans are driven out of powerful positions of journal editorship, media advisers, politicians, science will be able to accelerate at the rate needed to safeguard human lives from terrorism.

To debunk the myth that no honest politicians are around who want to stop suffering using civil defense, see [Nigel Farage's article linked here](#),

Let charity begin at home with a civil defence corps

POLITICS is all about priorities. In an ideal world we would all like to be able to spend unlimited funds helping everyone who is in need. ...

Meeting Ravinder Singh and his Sikh volunteers on the Somerset Levels on Sunday, I was struck by his complaint of having had no official point of contact to tell him how

We used to have just such a civil defence arm but it was abolished by Harold Wilson back in the 1960s – another era when a silly consensus had taken hold that suggested leaving the state.

But why not use the expertise and goodwill that exists among private citizens by giving them a local place to go to offer their services and find out how they can help?

The old civil defence corps performed sterling service in the aftermath of the Aberfan colliery disaster, the Lewisham rail crash and other post-war emergencies.

If David Cameron really believes in a Big Society then what is he waiting for? ... I know the fact that Britain's own Disasters Emergency Committee has ruled out a fundraise for floods victims ... Diverting some of the £11billion (soon to be £12.5billion) foreign aid budget to helping the many thousands of Britons who have been devastated by flood is not just an obvious step but a moral imperative.

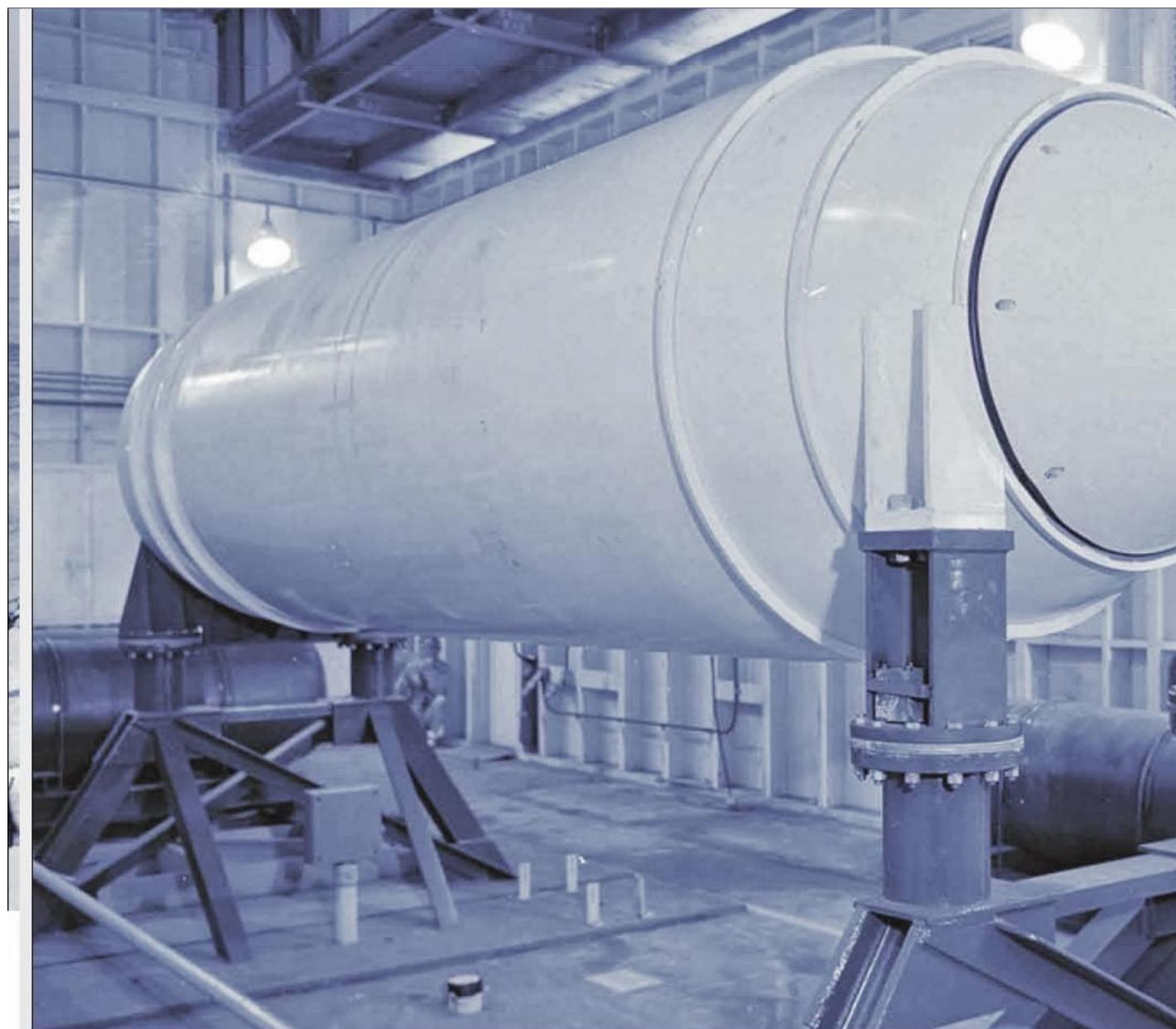
And to say so is not to ignore the plight of millions of people in developing countries. ... In fact aid spending overseas is notoriously inefficient and widely regarded as corrupt because it cements in place corrupt regimes.

What we do know for sure is here in Britain just a few weeks' worth of the international aid budget spent on the home front could make a massive difference. ... And the Europe could do on that score would be to scrap the EU's tariff barriers and open up its markets.

With a proper civil defense corps, we could send civilian shelters and rescue over seas to deal with war victims, handing out and setting up clean water wells, shelters and other emergency survival aid, instead of making problems worse by pouring trillions of our debt into foreign dictator's swiss bank accounts in the European Union of Soviet Socialist Republics. Instead of the so allegedly hated by socialists and communists, we could export REAL HELP. But nobody seems to want it. They just want to accept British money while allowing their problems to go on, they can milk us some more. Funny how "socialists" and "communists" always end up loving money so much they get addicted to it, losing sight of the real problems altogether, and especially attacks on all realistic solutions to the problems, which are proved to actually work (unlike money to dictators).

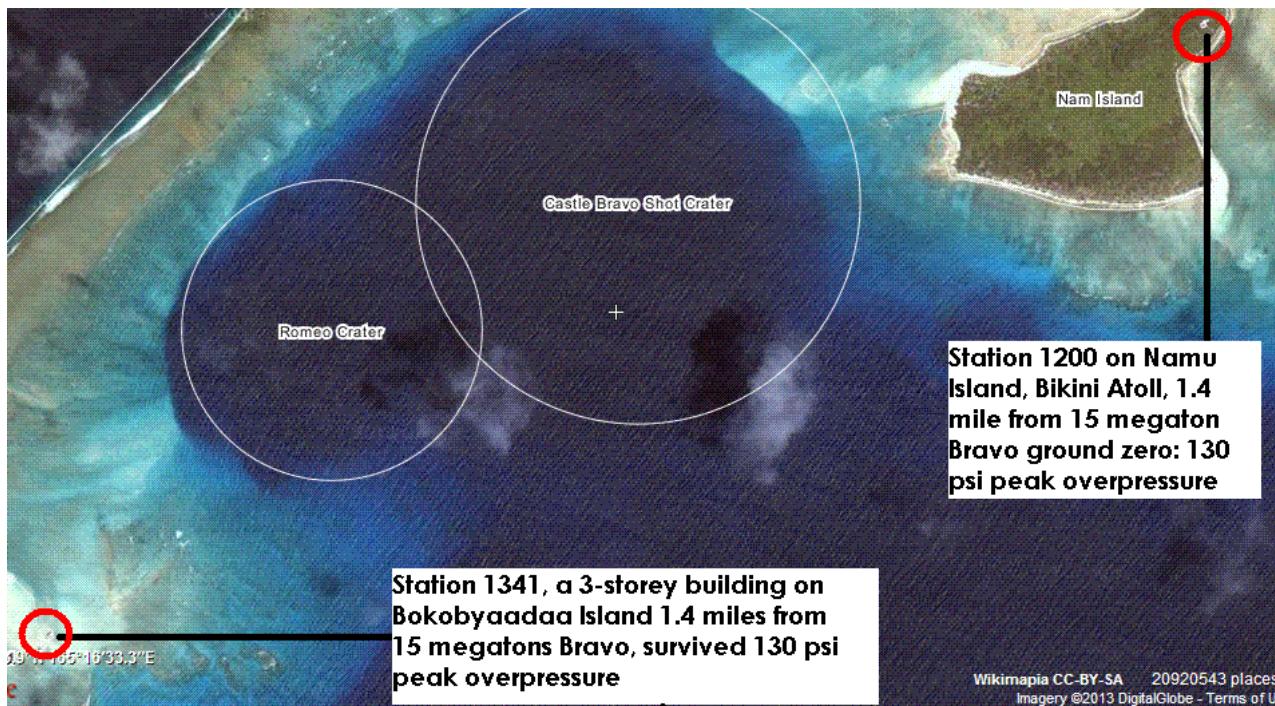
On a related theme, **the BBC's Adam Curtis, who in 1992 transmitted a ignorant poppycock attack on Herman Kahn's civil defense policy to make nuclear weapons credible conventional war aggressions in Europe and elsewhere, called "Pandora's Box: To the Brink of Eternity", has just been granted permission by the BBC to have his new at and the West in general hosted continuously for the entire year of 2015 on the BBC's iplayer site! (Normally you have to watch the programs on iplayer within just 7 days. attack on the West is called, suitably, "Bitter Lake"**, "a new, adventurous and epic film that explains why the big stories that politicians tell us have become so simplified that we can't longer". Curtis argues that the West has oversimplified things and thus been misled into invading Afghanistan like Russia in 1979. However, while I'd agree that much of the TV media has detailed technical debate to oversimplified soundbites, with the true alternative ideas being sunk off the radar because they sound too complex to explain in a 3 second soundbite on TV, I with its laid back approach to the clock is moral while the hardworking West is immoral. Afghan tribes for centuries have been getting their dose of excitement out of life by fighting wars, stress or bureaucracy or "games" like football. That's why the East always fights war like a game of strategy, seeking to exhaust the West financially, spiritually, morally. It doesn't make sense. The Middle East has always been polluted by the poppy drugs like heroin, also cannabis etc., and that's one strong reason why only strong religions like Islam prove capable of keeping a there. Christianity fails as weak.

I mean, with the war events unfolding in corrupt Russia and the Middle East, how on earth can Curtis be excused for seeing evil *only in the West*? While I have *little* sympathy for the poor billionaire dictator Putin in Russia, and for the dupes who are burning people to death in cages in Syria, I think there must be a LIMIT to how much sympathy nutters who do or support evil need to try to understand evil in order to try to defend ourselves from it, but that's not the same as being understanding towards evil, let alone helping it to continue doing what it wants to do. Adam Curtis is similarly limited. What really intrigues me about him and the rest of the BBC, the money spinning professional media, educational/scientific establishment, etc., is what they're thinking? Nothing probably! They let the people who make TV programs do their thinking for them, and those people are as corrupted by power according to Lord Acton's rule as Hitler or what people WANT TO HEAR and they KNOW THAT CATERING TO THAT PREJUDICED GARBAGE WILL MAKE THEM RICH. (THAT MARKS THE END OF ALL "THOUGHT PROCESS" point; time to switch on TV and soak up groupthink fashionable dogma!)





Looking from above-ground concrete building toward



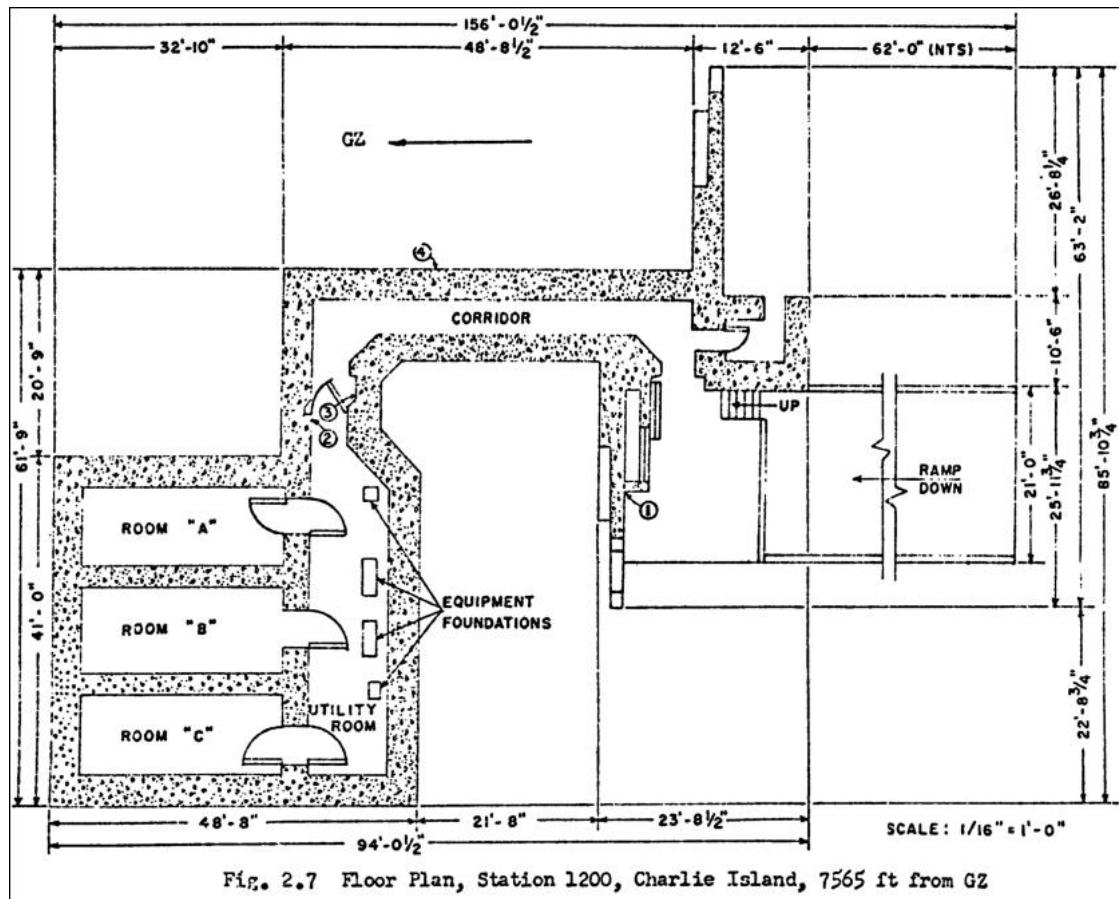
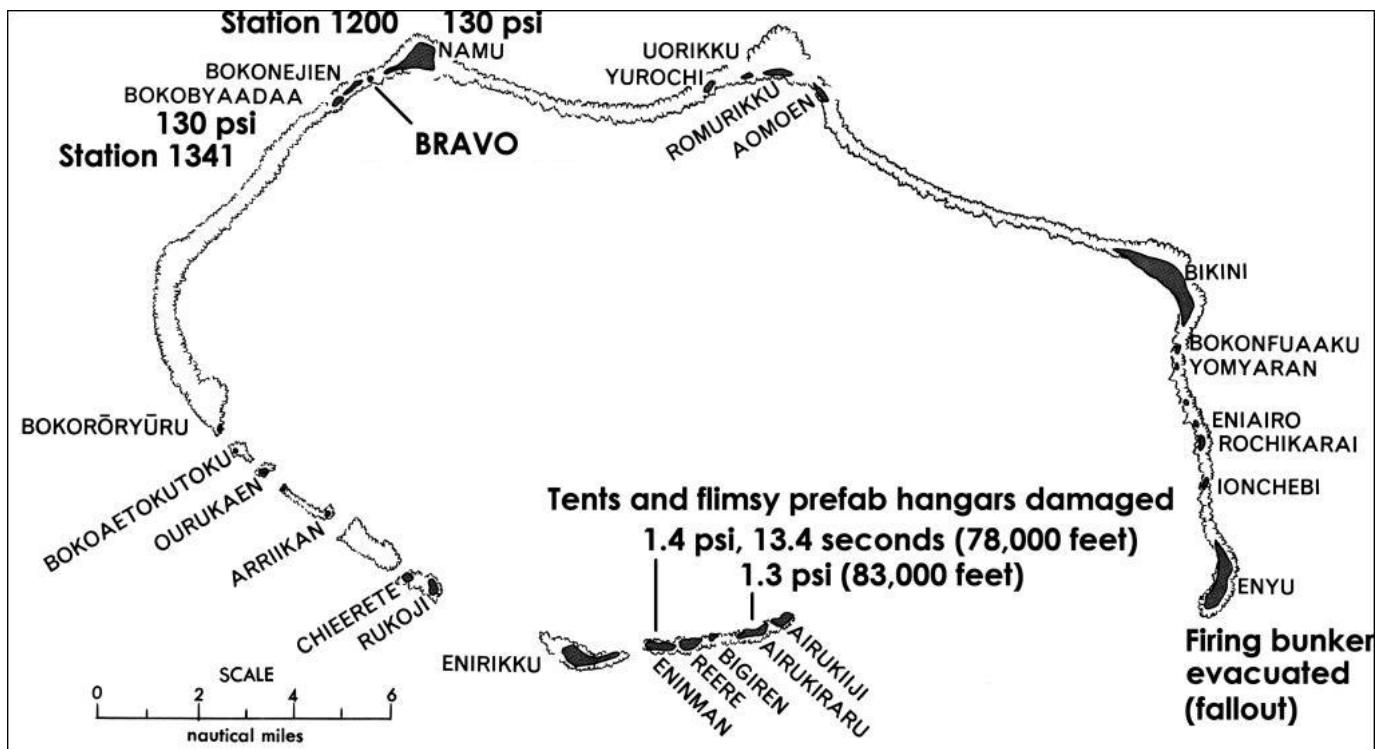
Still there today: Station 1200, 1.4 mile from Bravo...







Bravo pipeline end in shelter with 36 oscilloscope cameras to record radiation (station 1200 shelter, 11





The pipes along the causeway from the Bravo bomb to Namu (Charlie) island were Dr Sterling Colgate's experiment to measure Bravo's thermonuclear burn rate: piping collimated neutron radiation inside 12 vacuum pipes each of 15 cm diameter, extending 1.4 miles from the bomb to Station 1200 (the shelter located at the far end of Namu Island, still there today). These vacuum pipes, to minimise absorption of the collimated neutrons, replaced the Krause-Ogle helium-filled box used at the so-called "Ganex" GAMMA-Neutron EXperiment in the 1952 Mike test, where secondary gamma rays from neutrons striking Mike's steel case travelled through helium, arriving with little attenuation before the neutrons. The 14 MeV neutrons arrived at the detector before the tube was destroyed by blast near the bomb, and travelled faster than the lower energy neutrons, allowing the spectrum of the neutrons to be determined simply by using the time-of-arrival discrimination method.



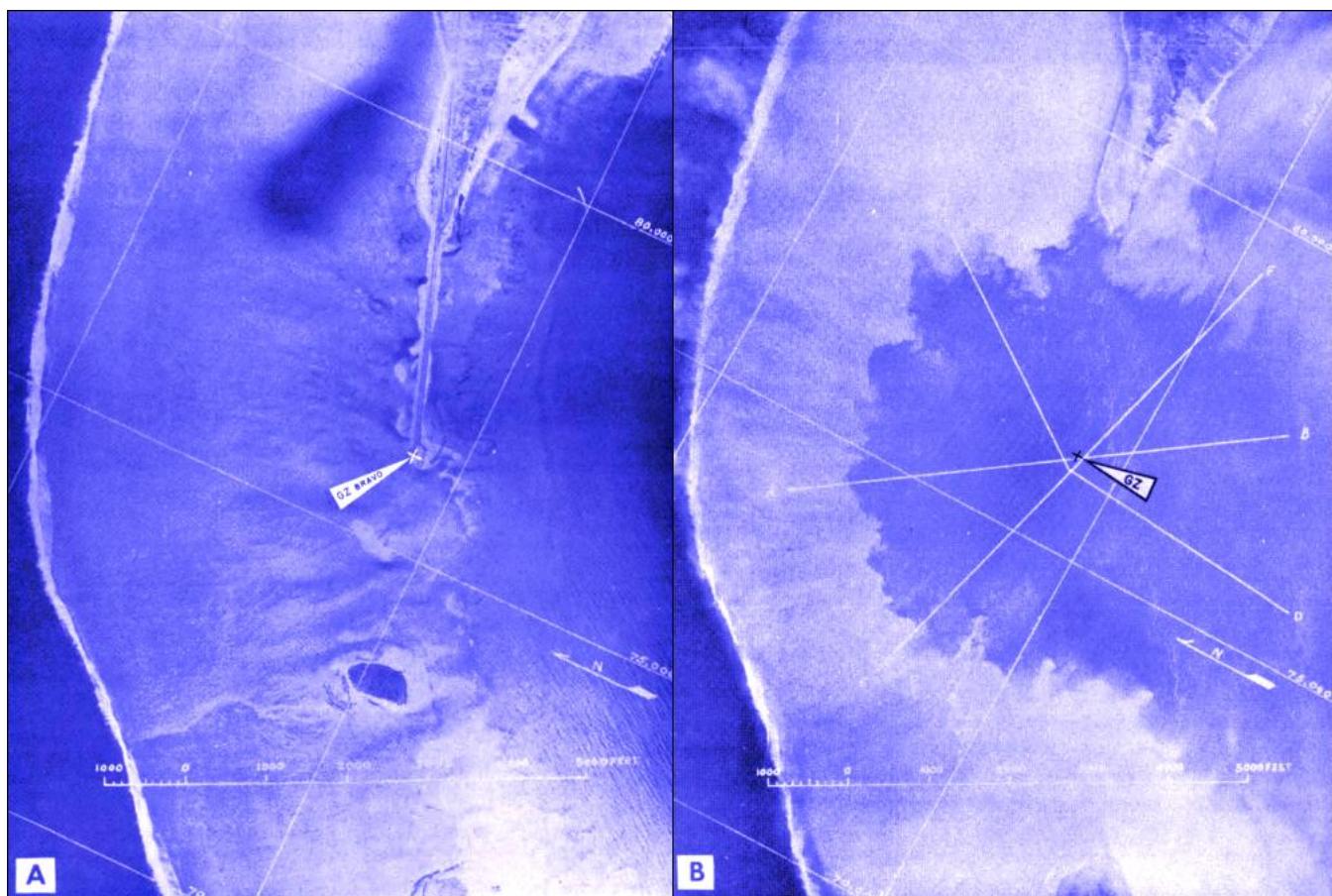
Bravo 15 Mt bomb arriving at Namu Island on 20 Feb. 1954



Above: above ground shelter survived 130 psi peak overpressure and fireball engulfment from 15 megaton Bravo nuclear test. Station 1200 on Namu ("Charlie") island, Bikini Atoll, survived just 1.4 miles from 15 megaton Castle-Bravo nuclear bomb test, despite being designed to withstand only 50 psi from the predicted 6

megaton yield. This shelter was connected directly to the nuclear bomb by Colgate's 12 neutron-carrying vacuum pipes (seen extending to the bomb in the photo above). Bravo's predicted yield was 6 Mt, but was unexpectedly boosted by a factor of 2.5 when Li-7 (60% of Bravo's lithium) was fissioned into tritium by 14 MeV neutrons. Bravo's crater (before and after photos) is shown below and comes up to the edge of Namu Island, but Station 1200 was intact despite ground shock; please remember that **coral is easily crushed by the blast, unlike ordinary silicate soil, so craters on a city will be much smaller, even if you forget the error due to ignoring gravitational potential energy for excavating in the Glasstone and Dolan crater scaling laws.**

"This structure [Station 1200] proved remarkably resistant to very high blast pressures. ... The structure performed its mission despite an overpressure [130 psi incident peak overpressure, before more than doubling due to blast reflection], almost three times that for which the structure was originally designed." - **Wayne J. Christensen, Blast Effects on Miscellaneous Structures, Operation Castle, Project 3.5, July 1955, Secret - RD, WT-901, page 27.**



Wayne J. Christensen explains in weapon test report WT-901 (*Blast effects on miscellaneous structures, Operation Castle, Project 3.5, July 1955, Secret - Restricted Data*) that Station 1200 on Namu Island (codenamed Charlie Island for security) at 7564 ft from Bravo, and Station 1341, a 3-storey above ground reinforced concrete building on Bokobyaada Island (Able Island) at 7500 ft from Bravo, survived about 130 psi peak overpressure. **Castle weapon test report WT-934, Operation Castle, Summary Report of the Commander, Task Unit 13, Military Effects, Programs 1-9 (1959)** explains on page 61: "These shelters maintained their structural integrity, but failed functionally because of detail failure."

The detail failures were things like a blast doors (facing the blast) being forced into Station 1341. This blast door was however not shut but actually *open at the moment of explosion to allow instruments to observe the fireball growth*, and then a gadget tried to slam the door shut automatically just before the supersonic blast wave arrived (a feature that depended on the exact yield, because the arrival time is much faster than sound within the fireball radius). The easy swing-close door, designed for only 50 psi incident overpressure, was forced in by 130 psi from the unexpected 15 megatons yield of Bravo.

When the second shot of Castle, 11 megaton Romeo, was fired on a barge moored over the Bravo crater, it subjected Station 1341 to 95 psi peak overpressure which blew off the already cracked 3rd floor (see WT-1631 / AD 355505, page 21, linked here). But what do you expect after 130 psi from 15 megatons and then 95 psi from 11 megatons? The point is, the two lower floors of Station 1341 survived both multimegaton onslaughts. But Castle was only a start. **In 1958, 9.3 megaton shot Hardtack-Poplar subjected Station 1341 to 350 psi peak overpressure and a ground shock which caused a peak floor slab acceleration of 210 g's (210 times normal gravity), which sheered off the cracked 2nd floor (see page 33 of WT-1631).** But even then, the first floor survived! See photo at top: the thing is still at Bikini Atoll today!

At Eniwetok Atoll, structures were torn down in 1979 during the decontamination process (most of the danger was from unexploded WWII shells remaining from the Japanese occupation of Eniwetok, not fallout). Photo below shows a typical shelter surviving intact after several H-bomb tests over on Eniwetok Atoll in 1977, before the clean up operation of 1977-9 (see the 1957 edition of Glasstone's Effects of Nuclear Weapons - not later editions - for the internal blueprint of a standard 100 psi peak overpressure nuclear tested shelter):



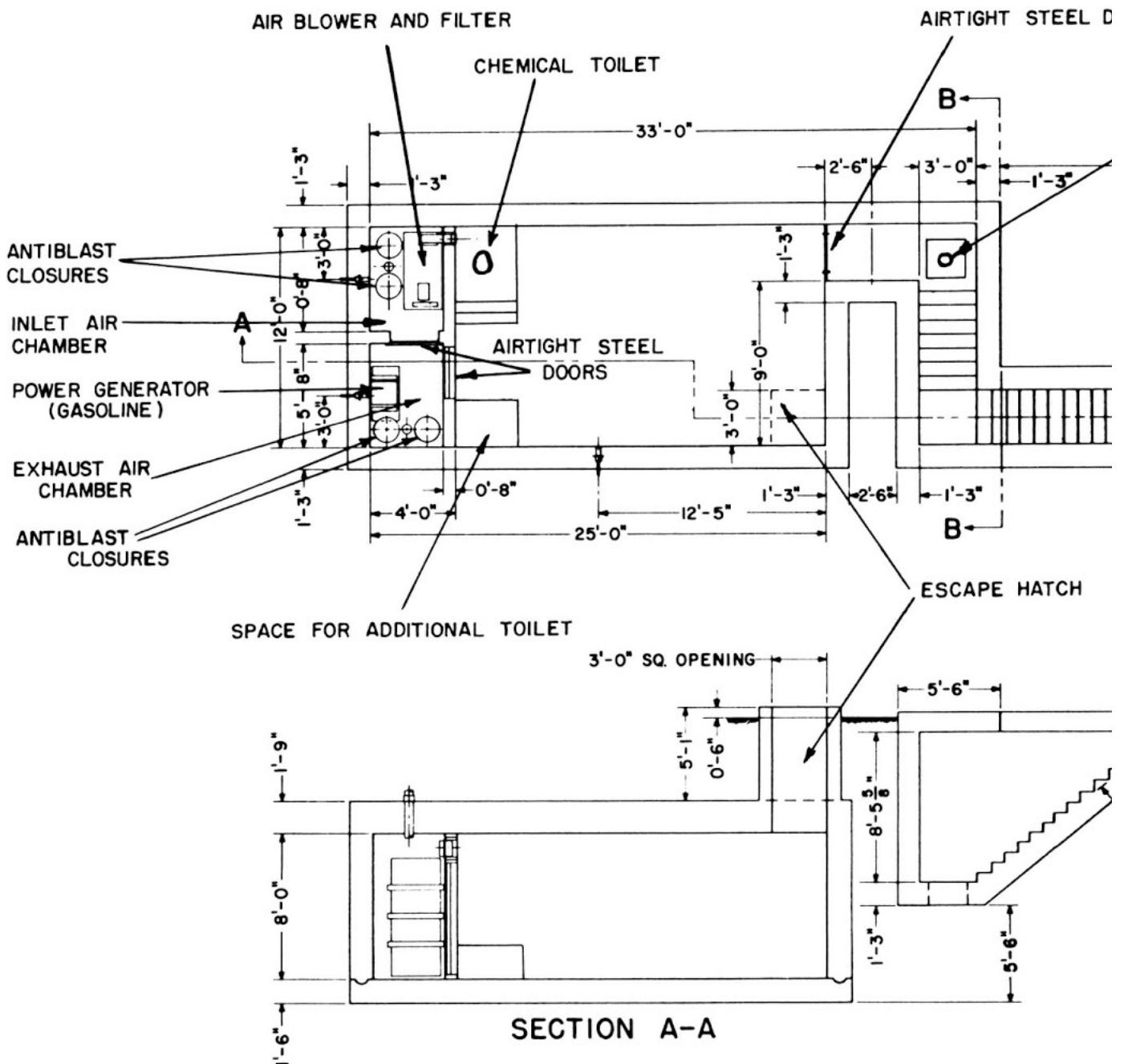
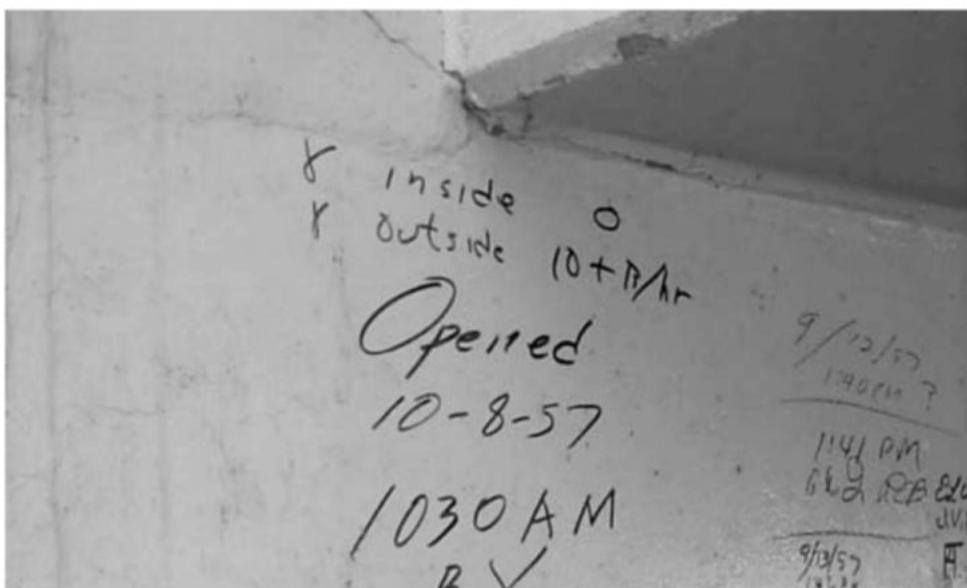


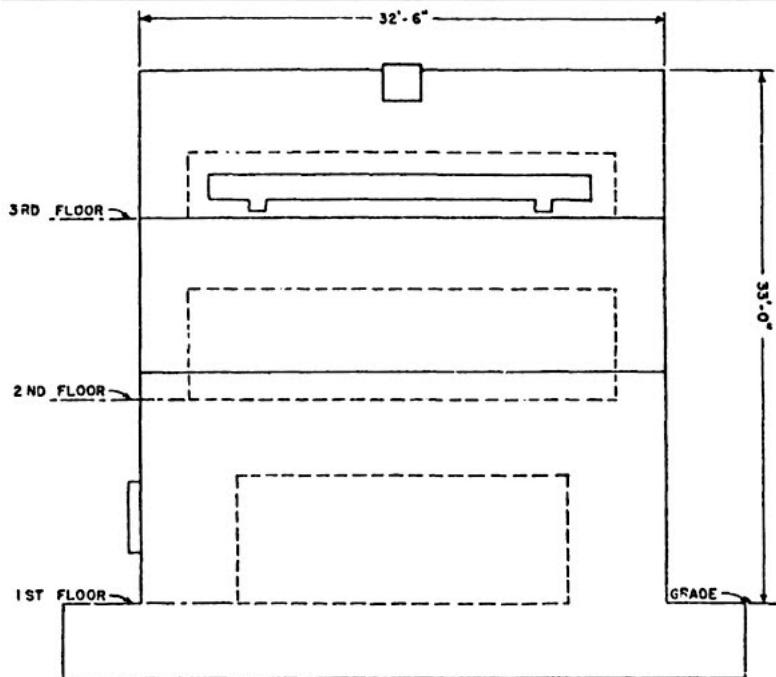
Figure 12.54. Sectional plan and section of underground

Above: the 100 psi peak overpressure surviving nuclear test-proved shelter in the 1957 edition of Glasstone's Effects of Nuclear Weapons.

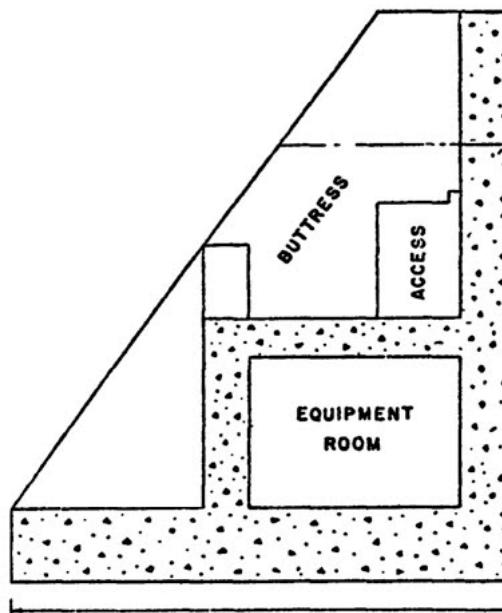
Shelter at ground zero, directly under 11 kt Fitzeau nucleo



Test fired on 14 September 1957. Shelter was re-entered on 13 September 1957. The outdoor (ground zero) dose rate was down to about 10 R/hour. The shelter was located directly under the 11 kt Fitzeau nuclear weapon. The shelter had 5 feet of earth cover, and was depressed 2 feet below ground level. The shock wave from the test was strong enough to move the shelter off its foundation. The shelter was destroyed by the shock wave. (W. G. Johnson, A Historical Evaluation of the Nevada Nuclear Test Site, 1950-1962, Vol. 1, p. 103)



Station 1341, Able Island (7500 ft from GZ) Front Elevation



Station 1341, Able Island, 7500 f

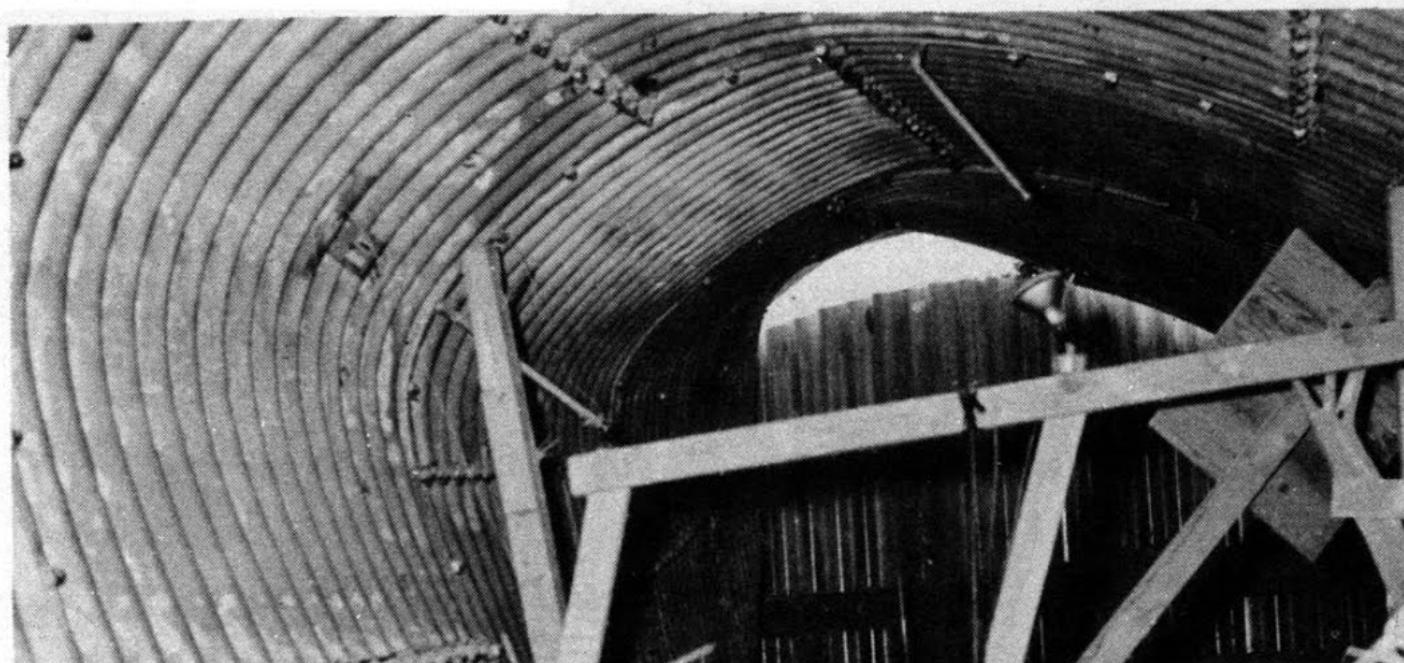
14.8 megator
1 March 1954
Station 1341
a three-story c
survived 7,500 f



10.4 MEGATON MIKE TEST: 2.29 km, Rucco Station 520 concrete blockhouse survive

DAMAGE FROM AIR BLAST

Met ENW 57 structure 3.6 1500 ft GR Teapot MET
30psi op 170psi dynamic WT1128 PRECURSOR



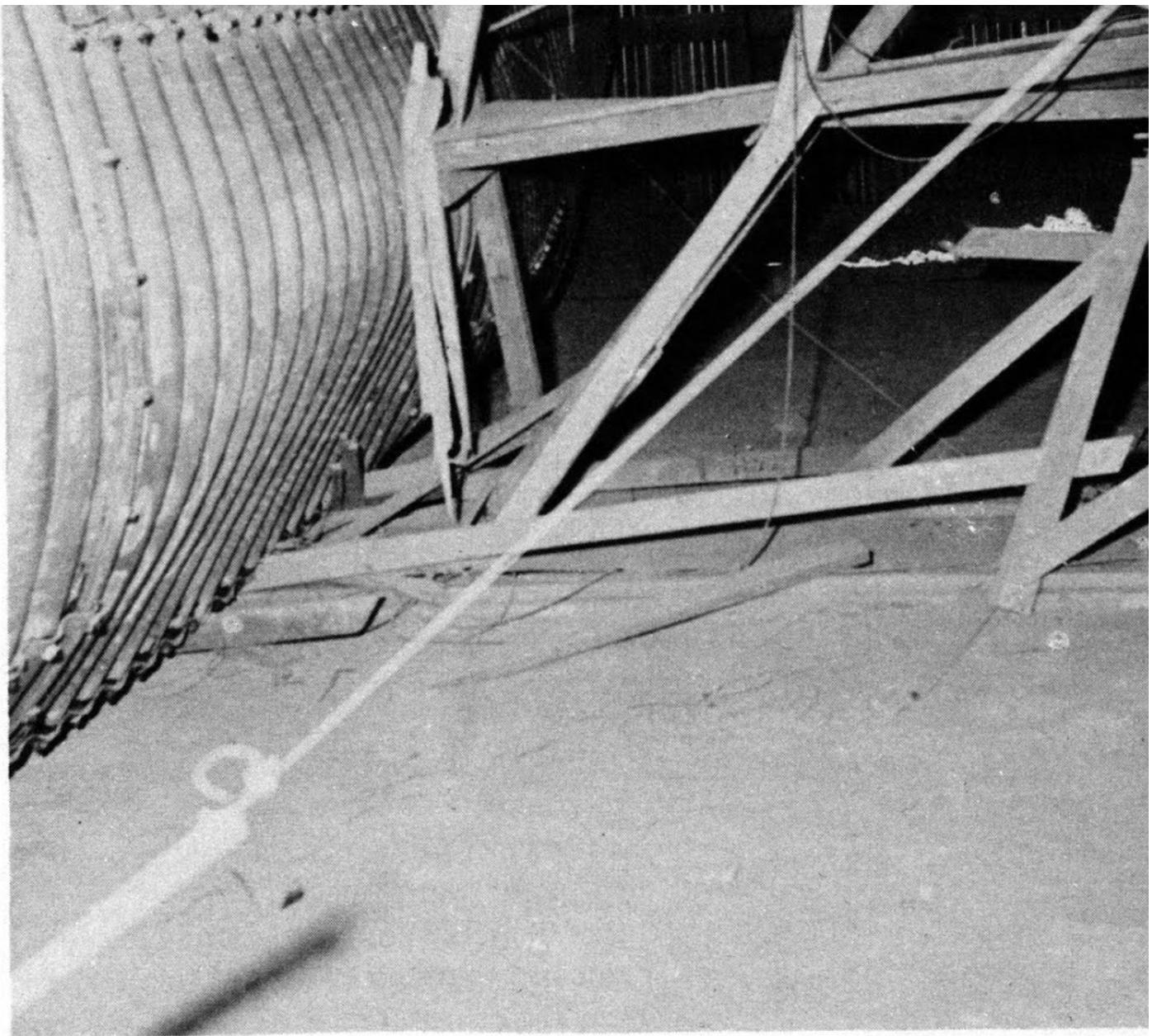


Figure 6.13. B-type damage to earth-covered 10-gage corrugated stee





Fig. 16—Lean-to at 7500 ft before blast.

**16.4-kt, 300-ft tower shot
No damage was caused to either shelter by the blast.**

12

ADA074624

WT-801

**EFFECTS OF AN ATOMIC EXPLOSION
ON UNDERGROUND AND BASEMENT
OF HOME SHELTERS**

Joseph B. Byrnes October

CONFIDENTIAL (declassified in 1963)

(b) Covered Trench Shelter at 1450 Ft from Ground Zero. See Fig. A.3 for details of this shelter. Thirty-three pounds of sand was added to the lower part of the male mannequin in this shelter in the same manner as previously described. The total weight of the mannequin, fully clothed, was 84 lb. Marks were made on the bench and roof slab of the shelter before the blast to locate the position of the dummy.

The mannequin was not moved or damaged by the blast. No damage to the shelter was evident. The roof slab showed no cracks and had no permanent deflection at midspan.

Concrete slab roof with 3 ft earth cover

(at the 1955 29kt Apple-2 test, a similar basement lean-to shelter at 4700 ft reduced 180 r initial gamma outside to just 6.7 r: Table 2.1 on p35 of WT-1218, May 19 ADA073524, LJ Vortman, "Evaluation of Various Types of Personnel Shelters Exposed

A SUMMARY OF UNDERGROUND AND EARTH-COVERED LOADING AND RESPONSE SYSTEMS SUBJECT TO THE EFFECTS OF NUCLEAR WEAPONS DURING FULL-SCALE TEST OPERATIONS CONDUCTED 1951 - 1958, 31 August 1963, report DASA-1390, AD340311, previously Secret-FRD. This report lists all the nuclear weapons tests, the blueprints for the structures exposed at each, the distance and peak overpressure, etc., and the effects which resulted.

Since Bikini and Eniwetok atolls are relatively small, the higher yield tests repeatedly exposed instrument station structures left over from previous testing to further detonations, so that the effects of repeated blasts were ascertained. This is contrary to so much of the ignorance-based anti-civil defense propaganda which insists that nobody knows what repeated nuclear explosions will do to targets.

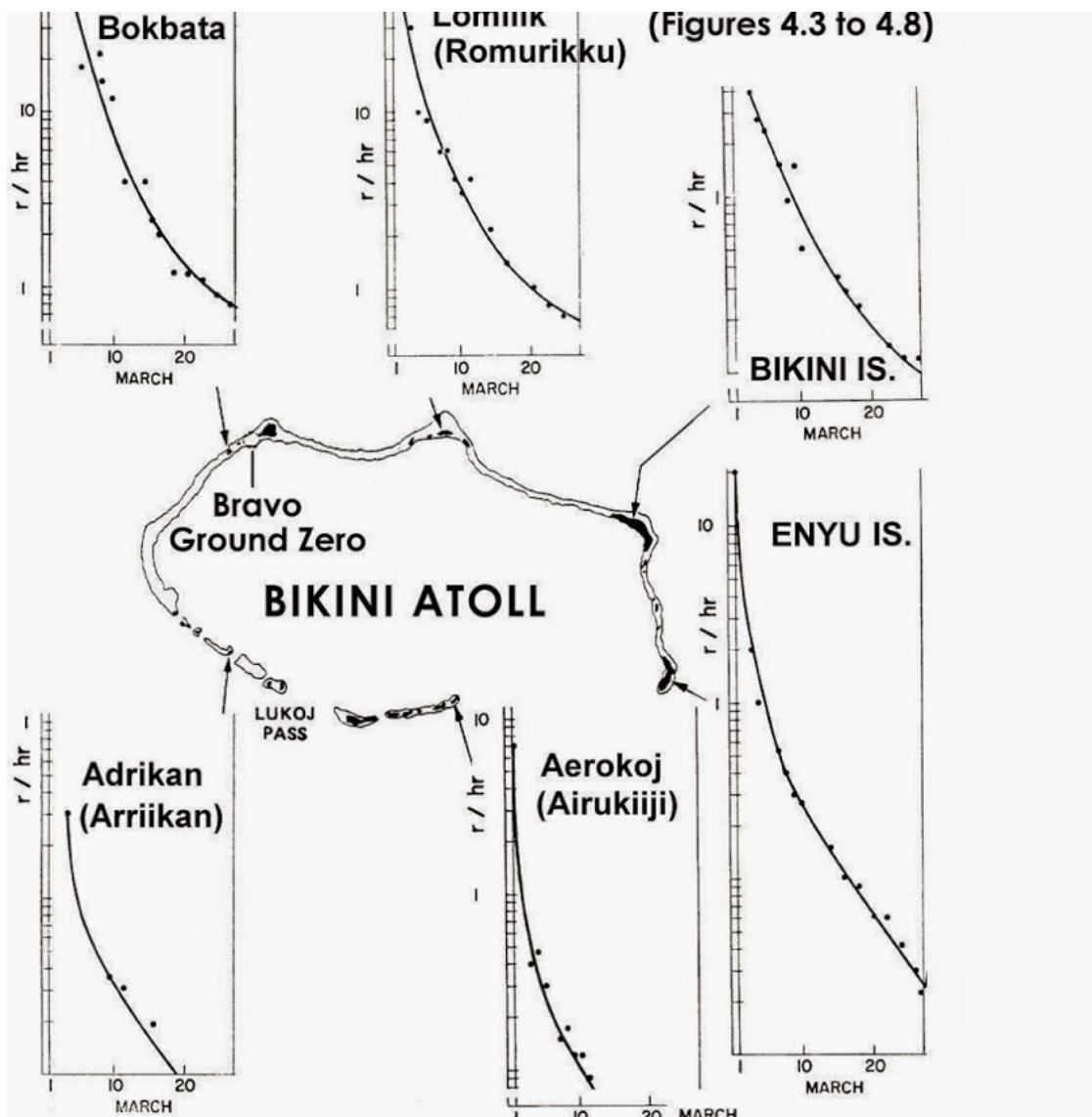
DAMAGE TO EXISTING EPG STRUCTURES, 17 October 1960, report WT-1631, AD355505, previously Secret-FRD, contains useful tables of the effects of repeated nuclear detonations on the testing structures at Bikini and Eniwetok atolls during the nuclear tests at those atolls, including the final tests there in 1958.

Wayne J. Christensen, Blast Effects on Miscellaneous Structures, Operation Castle, Project 3.5, July 1955, Secret - RD, WT-901.

What needs to be produced is a new summary of atmospheric nuclear tests, incorporating these detailed data on the effects of specific tests upon specific target structures.



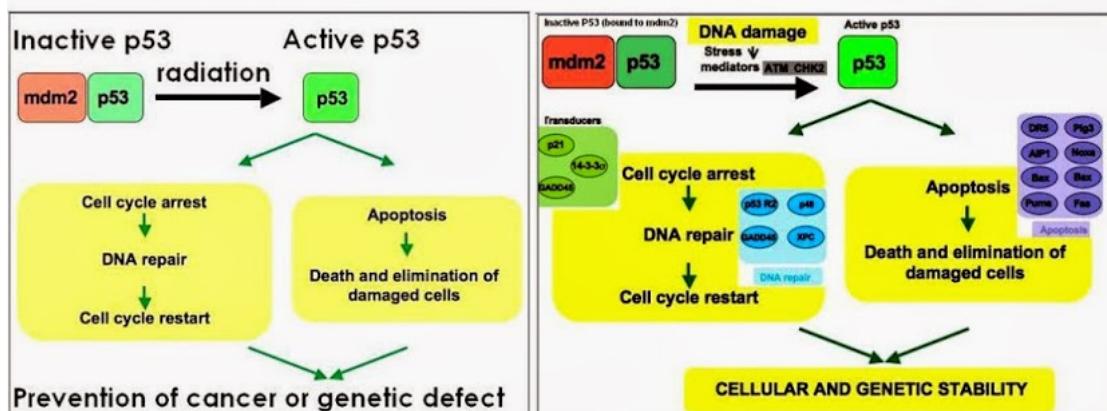
**CASTLE-BRAVO
Source: WT-942**

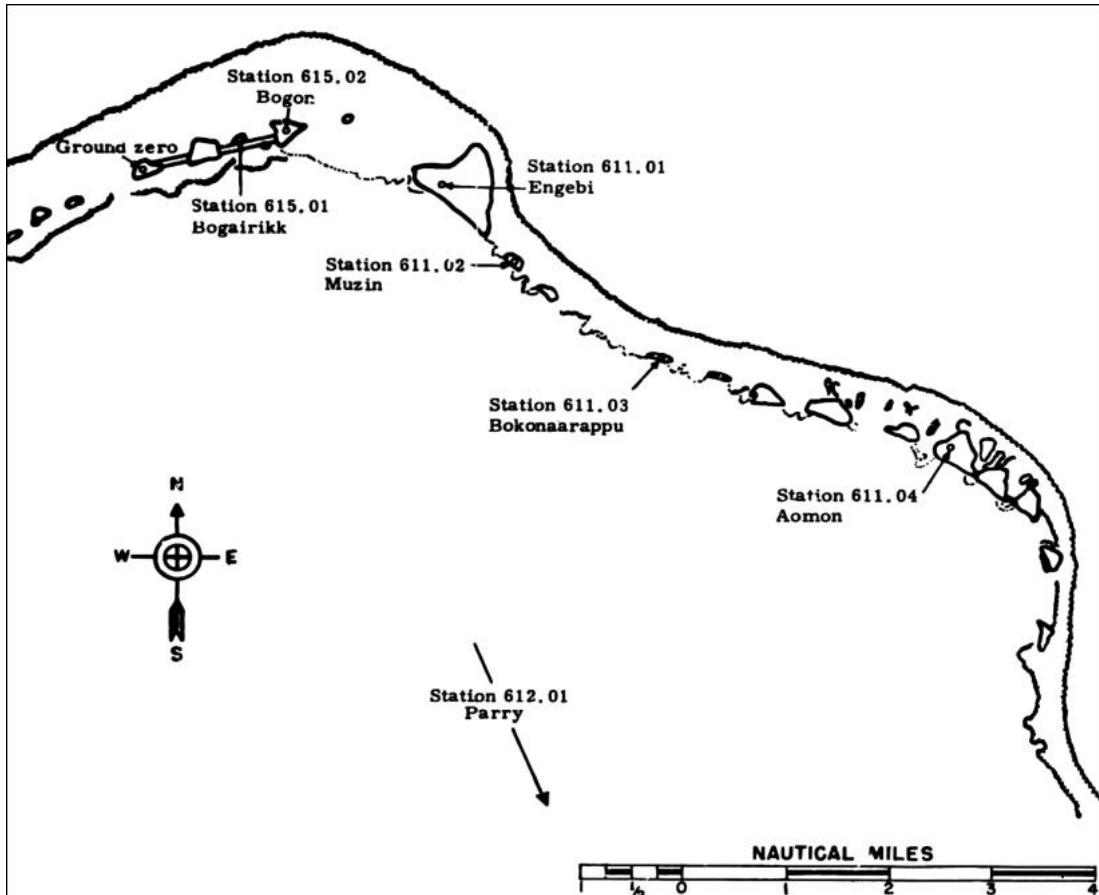


Preston, D. L., Pierce, D. A., Shimizu, Y., Cullings, H. M., Fujita, S., Funamoto, S. and Kodama, K., "Effect of Recent Changes in Atomic Bomb Survivor Dosimetry on Cancer Mortality Risk Estimates," Radiat. Res. v162, pp377–389 (2004).

| Dose range milli-sievert | Number in 1950 | Cancer deaths (excl. leukaemia) | | Leukaemia deaths | |
|-----------------------------|-------------------|---------------------------------|---------------------|------------------|---------------------|
| | | total rate | rate from radiation | total rate | rate from radiation |
| Less than 100 | 68467 | 11.2% | 0.09% | 0.2% | 0.01% |
| 100 to 200 | 5949 | 12.3% | 0.7% | 0.2% | -0.01% |
| 200 to 1000 | 9806 | 13.2% | 1.9% | 0.6% | 0.3% |
| More than 1000 | 1829 | 24.1% | 8.1% | 3.5% | 2.4% |
| All | 86611 | 11.7% | 0.6% | 0.3% | 0.1% |

Cancer deaths among 86611 Hiroshima and Nagasaki survivors, 1950-2000
The total radiation-related deaths from solid cancer and leukaemia were 480 and 93, respectively.





Above: in the 10.4 megaton Mike nuclear test on Elugelab Island, Eniwetok Atoll, 1952, the rats (species *Rattus exulans*) of Engebi survived the heat, blast, and fallout as explained by Neal O. Hines in his book *Proving ground: An account of the radiobiological studies in the Pacific, 1946-1961*, dramatically on pages 143, 151, 209-212, and 297:

Page 143: "On ... November 8 [7 days after Mike] ... At Engebi the group went ashore on an island ... that had been swept by the blast and by the succeeding surge of water. ... survey meters indicated radiation was at 2 to 2.5 R/hr [about 1,000 R/hr at 1 hour after detonation, allowing for $t^{-1.2}$ fallout decay] ..."

Page 151: "The exposure of Engebi to the effects of the Mike shot made it seem impossible that rats had survived. The view was expressed in a subsequent summary by [Frank] Lowman, who said that there was 'little probability that rats had lived through the heat, the shock wave, the rush of water, and the nuclear radiations that Mike had inflicted on the island. Members of the rat colonies apparently did live through the holocaust, however, and the questions presented by this circumstance would intrigue the investigators for years."

Page 209: "Their nests, composed of loosely matted grass stems, usually are built in burrows 6-12 inches below the surface of the ground, but occasionally the tunnels extend to 18-24 inches below the surface, or nests are found immediately beneath boards, slabs of concrete, or protective rubble. ... In 1955 the rats of Engebi were living on a treeless plain ... they fed on the seeds of *Lepturus*, *Thuarea*, and *Fimbristylis*, and on the leaves of *Triumfetta* and *Sida*, all common grass plants."

In 1954, the rats that of Engebi surviving Mike were exposed to the 1.69 megaton Castle-Nectar test, which is discussed on page 212:

"After the Nectar detonation concentrations [of I-131] in the thyroid were at levels considered excessive ... within 9 weeks activity in the thyroid was so low that measurement was difficult. ... most of the radioactivity in muscle was due to the presence of cesium-137, and no strontium-89/90 was found in that tissue. ... In January, 1955, the bones of rats contained strontium 89/90 in amounts approximating the maximum permissible dose, but no bone tumors have been discovered and none was found in specimens collected later."

Page 297: "The survival of the rats in the face of repeated atomic bombardment had seemed in 1955 a circumstance approaching the phenomenal. Even more so was the continued health of the colonies ... The case was important because it seemed to bear so directly on one of the broadest of the unanswered questions of the nuclear age, the effect on warm-blooded, vertebrate animals of continued exposure to low-level irradiation."

**Average ^{137}Cs Levels (pCi g $^{-1}$ Dry Weight) of
Soil Samples and Plant and Animal Tissues
Collected on Runit Islet (1967)***

| | Distance from Cactus Crater, m | | | | |
|----------------------------|--------------------------------|-------|------|------|------|
| | 0 | 200 | 1030 | 1710 | 2460 |
| Surface soil | 34.4 | 10.8 | 2.4 | 3.7 | 0.5 |
| <i>Scaevola</i> fruit | 437.5 | 56.1 | 7.5 | 20.4 | 1.7 |
| <i>Tournefortia</i> leaves | 2174.0 | 76.8 | 49.0 | 30.4 | 2.0 |
| Roof rat liver | 2261.0 | 276.0 | 38.8 | 11.0 | 3.5 |
| Roof rat kidney | 5134.0 | 722.0 | 95.6 | 38.0 | 4.7 |

*Bastian, R. K., and W. B. Jackson, 1975, ^{137}Cs and ^{60}Co in a Terrestrial Community at Enewetak Atoll, *Radioecology and Energy Resources*, Special Publication, The Ecological Society of America, Fourth National Symposium on Radioecology, Oregon State University, pp. 314-320.

Above: the rapid fall in cesium-137 uptake by plants and animals with distance from the lip of the Redwing-Cactus nuclear surface burst crater in 1967 (twelve years later, in 1979 this particular crater was used as a convenient dump for contaminated soil and WWII munitions found during the Eniwetok Atoll clean up campaign, and then it was simply sealed up with a concrete dome).

Vaporization myths

Nobody has ever been "vaporised" by thermal radiation from a nuclear explosion, e.g. in Hiroshima even at ground zero you're talking about 100 calories per square centimetre in the open. Useful information: heat of vaporization of water = 2257 J/g = 540 calories/gram. Density of water or skin (70% water) = 1 gram/cubic centimetre.

Therefore, 100 calories per square centimetre (ground zero Hiroshima) is only enough energy to vaporize a layer of water or skin $100/540 = 0.185$ cm thick, or 1.85 mm thick.

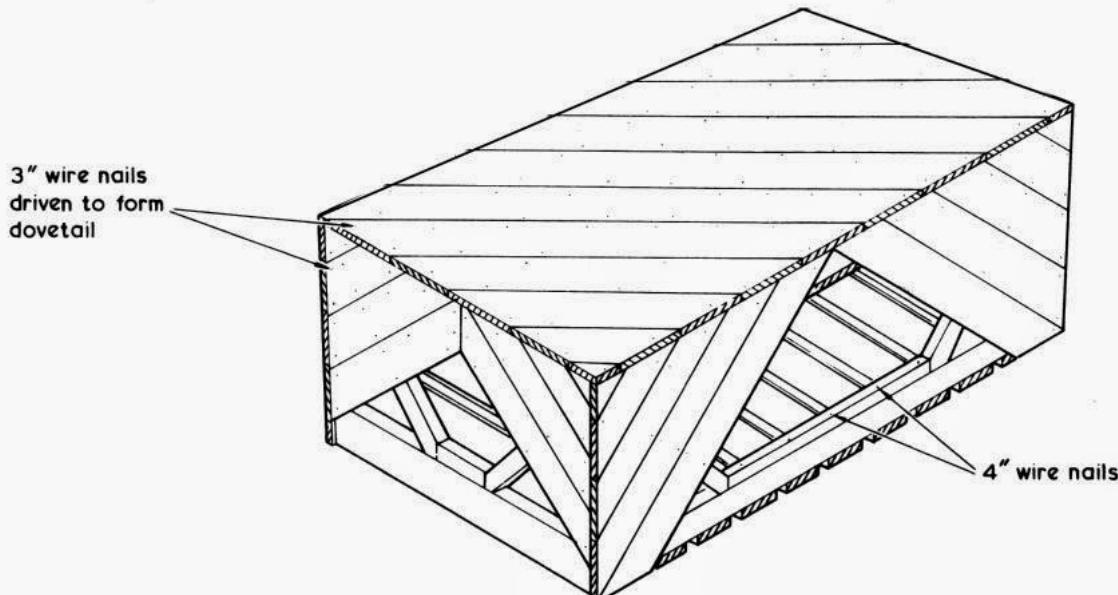
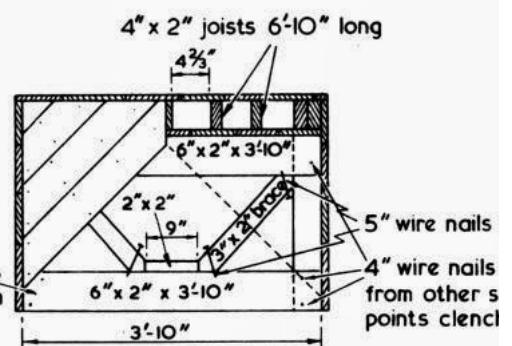
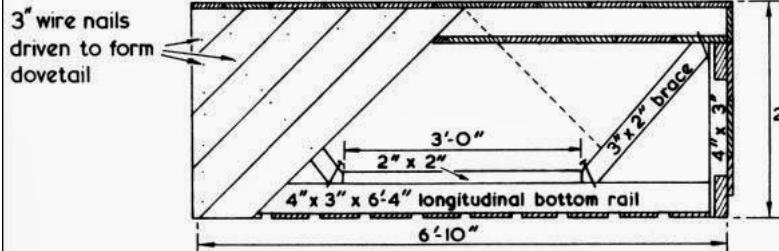
In fact, even less will be vaporized because some heat is reflected by the skin, and some is absorbed by clothing. If clothing ignites, it can be extinguished easily by rolling it out. Remember, contrary to propaganda, thermally ignited clothing is easier to extinguish than petrol soaked clothing in peacetime car accident victims. The 1946 U.S. Strategic Bombing Survey report documents the fact that clothing ignition could be beaten out.

The main danger in cities is not from thermal radiation or fires, because modern city buildings absorb almost all of the thermal and much of the nuclear radiation. So the really widespread danger is flying glass and blast winds, which are dealt with by duck and cover on seeing the bright flash, which arrives prior to the blast wave.

Lord Baker's remarkable book, *Enterprise Versus Bureaucracy: The Development of Structural Air Raid Precautions during the Second World War*, 1978, gives the survival rates for simple indoor table type Morrison shelters on page 61: for Type A damage or complete demolishing by blast ("houses completely demolished") only 3 people out of 119 occupants survived (hence the figure of 97.5% survival under strong tables). For type B and C damage ("houses damaged beyond repair" and "houses damaged so as to be uninhabitable") 0% survival. Lord Baker shows that a wooden version of the Morrison shelter was proof tested successfully with 1 inch thick planks and joists to resist a collapsing house, finished with a coat of paint:

PROOF-TESTED WOODEN VERSION OF MORRISON INDOOR TABLE SHELTER UK Home Office Research and Experiments Department Bulletin C21

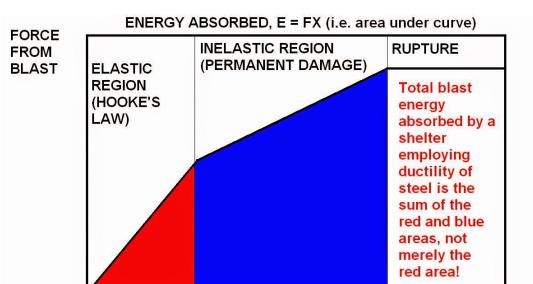
22 August 1941



Survived ho
collapse int

This wooden table shelter used "salvage timber from blitzed houses of which 20 shillings worth could be bought per month without a licence, ... the recommended material. ... The cost of materials including nails and fire retarding paint varied from £3 to £4.10s ... This shelter passed the Research and Experiments Department's tests with flying colours." - Lord Baker, *Enterprise versus Bureaucracy: The Development of Structural Air-Raid Precautions During the Second World War*, 1978, p80.

Before the second world war was started in the age of aerial threats, civil defence needed to get into gear. So in January 1939 British shelters were proof tested against bombs to credibility for the public, before their manufacture and distribution began in February 1939. It was only because of this practical civil defence before WWII broke out, that Britain practical position to declare war against Germany when Poland was invaded jointly by Russia and Germany in September 1939. Hence, appeasement had to be the policy prior to proof-tested civil defence against the effects of aerial bombardment using high explosives. **We had the proof-tested technology in 1954 to build three storey concrete buildings to survive the 15 megaton *Bravo* nuclear test just outside the crater where the peak overpressure was 130 psi (photos in earlier post linked here), and anyway, rats v fancy shelters survived on Engebi Island, just 2.5 miles from the 10.4 megaton *Mike* nuclear test (click here for the proof).**



DISPLACEMENT OF WALL

NOTE THAT INELASTIC DEFORMATION BY DUCTILE MATERIAL LIKE MILD STEEL ABSORBS FAR MORE ENERGY (BLUE AREA) THAN RED AREA!

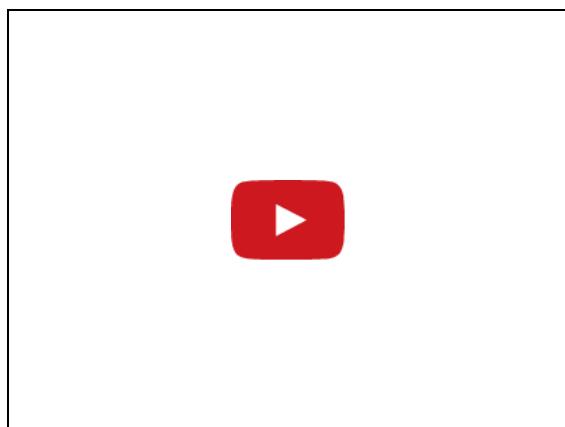
RED AREA IS PRE-BAKER SHELTER DESIGN (POOR ENERGY ABSORPTION)

"The energy absorbed by a structure in deforming it is measured by the area under the load-deflection curve [the graph showing load force plotted on the y-axis

versus the deflection in metres caused by the load, plotted on the x-axis, *see our illustration above*]. The ... energy that could be absorbed elastically [i.e. *without any permanent distortion*, is merely equal to area of the curve up to the elastic limit of Hooke's law] but the energy absorbed plastically [i.e. *with permanent distortion*] is the vastly bigger area [because it goes well beyond the elastic limit of Hooke's law]. When the energy to be absorbed is known, then the protective structure can be designed, using the plastic method, to have a collapse load and a permanent deflection of such magnitudes that the area under the load-deflection curve equals this energy."

- Lord Baker, *Enterprise versus Bureaucracy: The Development of Structural Air Raid Precautions During the Second World War*, 1978, page 28.

Page 117 of this book states that a total of 1,174,201 Morrison shelters were made and issued to the public (Patent Specification 548069, "Improvements in and relating to air raid shelters"). Note also that **Frank H. Pavry who visited Hiroshima and Nagasaki as part of the British mission to Japan in 1945, and later worked in the Home Office Scientific Advisory Branch on civil defence shelters** at the Monte Bello "**Operation Hurricane**" test with **George R. Stanbury** for nuclear war civil defence, was a member of Baker's RE4 team, the Design and Development Section of the Research and Experiments Department, Ministry of Home Security, in June 1941, as proved by the list of personnel Baker gives on page 99; on page 11 Baker states that Pavry and D. C. Burns - who improved the strutted refuge room design - were both engineers recruited by him from the Cement and Concrete Association. Baker's junior engineering partner at his consultancy, **Edward Leader-Williams (who collaborated on the Morrison shelter) was also recruited and stayed on at the Home Office Scientific Advisory Branch during the cold war, applying indoor sheltering to nuclear war and calculating the efficiency of civil defence against nuclear attack for government (e.g. his report CD/SA 54 on sheltering and evacuating British cities against an attack with five 20 megaton H-bombs**, which we discussed in a previous post linked [here](#)). The British Cement and Concrete Association is described by Baker as "the research and publicity arm of the cement industry" which offered the UK Government free-of-charge structural engineers to help with implementing practical shelter designs during WWII). See the video of Lord Baker proving that point about energy absorption, below:





**Lord Baker of Windrush,
O.B.E., Sc.D., F.R.S., C.Eng.**

Lord Baker (ScD, FRS, Professor of Engineering, Cambridge University 1943-68 and Head of the Design and Development Section of Research and Experiments Department, UK Ministry of Home Security, 1939-43), was the inventor of the **indoor "Morrison shelter"** (named after the Minister of Home Security Herbert Morrison, who was appointed on 4 October 1940 by Prime Minister Churchill when he fired Anderson because nearly all the **outdoor Anderson shelters** were useless due to ground water flooding). Morrison, upon appointment in October 1940, immediately commissioned the indoor shelter from Baker to replace the outdoor Anderson shelter in 1941, at least for the production of further shelters. Baker tells the story in his book *Enterprise versus Bureaucracy: The Development of Structural Air Raid Precautions during the Second World War* (1978). The indoor shelter was opposed before the war when it was first suggested by engineers, because of politicians who exaggerated the "knockout blow theory". They claimed that ground water flooding and cold night air raids (e.g. every night in London for two months from 7 September 1940) was an absurdity and would never happen: the war would be won within 48 hours by a simple massive air raid combining poison gas, explosive and incendiaries to kill millions and induce surrender. This was propaganda for pacifist reasons, attacking cheap and effective protective countermeasures using exaggerations based on daft political assumptions, not scientific facts which played the role of camouflage for the false attack assumptions which ignored deterrence of escalation within a world war to gas attacks by the threat of both retaliation and simple defensive gas masks and liquid agent proof rooms (**similar firestorm effects are still exaggerated for nuclear attacks in modern concrete cities today by similar bigoted, dangerous, complacent disarmament propaganda for appeasement of terrorists**):

"Apparently, Mr Churchill, a few days before [in October 1940] concerned as he would be at the hardships of the common people and the possible danger to the war effort of any serious drop in their morale, had said to Mr Morrison [the new Minister of Home Security, who replaced the water-flooded Anderson!], 'Herbert, you must give the people a shelter in their own homes', ... The potential energy of a typical two-storey villa, or cottage type of modern house ... is equivalent to about 150 tons falling 10 feet. [Therefore, to make the shelter cheap and affordable you must permit the shelter to be dented, and use the plastic deformation to absorb the impact energy, instead of the old-fashioned engineering textbook approach of dogma, which "proved" shelters to be unaffordable by assuming that to give adequate protection the shelter must not be subjected to anything exceeding its yield stress force. Thus, you must design the structure deliberately to be dented in order for it to be able to absorb energy in the process, and therefore provide protection. A small shelter which was so strong it was not dented, would not absorb energy, transmitting large accelerations to the occupants and also proving to be immensely expensive and unaffordable. This is something that is never learned by the anti-civil defence brigade, who judge shelter success on whether there is damage to the shelter or not! You can't absorb large amounts of energy without distortion. As blast effects expert **Lord Penney proved in Hiroshima and Nagasaki, even the damage to wooden houses absorbed blast energy and shielded the blast in a cumulative manner; the oscillation of massive city skyscrapers by blast absorbs even more energy** and is ignored in barmy OTA blast calculations for cities that assume perfectly reflecting desert surfaces]... Since the shelter was to be 2 feet 6 inches high it was considered that the top horizontal members could deflect at

their centres by 12 inches without injury to even the stoutest occupant, always assuming that he was lying down - if he was not when the bomb exploded he certainly would be by the time the house collapsed."

- Lord Baker, *Enterprise Versus Bureaucracy: The Development of Structural Air Raid Precautions during the Second World War*, 1978, pp. 48-49.

The extract below about J. D. Bernal's Communist-leaning "Cambridge Scientists Anti-War Group" (Hitler and Stalin were in collusion to invade Poland jointly in 1939) is available more fully online: Gary Werskey, "A MOST POPULAR FRONT", in the Christmas Supplement to *New Scientist* Dec 21-28, 1978.

threat of a major European war.

Naturally the public's greatest fear was that the enemy's bombers were about to "get through" and, having penetrated our defences, would lay waste cities bereft of an adequate system of civil defence. Responsibility for civil defence in the Home Office's Air Raid Precaution (ARP) programme was partly the responsibility of the Cambridge Scientists' Anti-War Group (CSAWG). In February of 1937, for example, in April of 1938, the CSAWG published some fairly hard and damaging evidence about the inadequacy of the official ARP strategy.

Though the mere mention of the Cambridge group can still provoke quoting from its peers ("ministerial laughter" in the House of Commons, its experiments and criticisms did cause the government some concern in private. Indeed as late as October 1938, the First Lord of the Admiralty, Sir Alexander Popham, wrote to the Chancellor of the Exchequer that "We are dangerously backward in protection against the consequences of high explosives, especially in the most vulnerable areas represented by important industrial cities with crowded populations." "It is clear," Sir Samuel Hoare continued, "that the country is anxious for large developments in the shelter policy, and the government must adopt measures which will ensure vigorous and quick progress with all practicable schemes for providing such protection."

Measures were already being taken to strengthen the country's civil defences. The ARP budget rose to £42 million in 1938, an increase of nearly 500 per cent in the space of one year. Sir John Anderson, a distinguished civil servant, was appointed to oversee this rapidly expanding programme. One of his first acts as the ARP chief of staff was to ask J. D. Bernal, an X-ray crystallographer, who had been the moving force behind the Cambridge Scientists' Anti-War Group, to serve as his scientific adviser on a wide range of civil defence. The provisional acceptance of left-wing

The "Cambridge Scientists Anti-War Group" was founded in 1932 by the left-wing blinded physicist, J. D. Bernal.

The British Home Office (aka the wartime Ministry of Home Security) tried to ignore criticisms of proof tested civil defence, instead of engaging in democratic debate and debunking them.



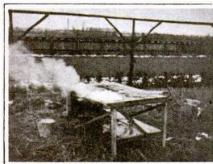
An experiment that backfired. In 1938 the Cambridge Scientists' Anti-War Group attempted to confirm a report from Spain that an incendiary bomb could set alight a multi-story building by burning through several floors in succession. The experiment was entrusted to Maurice Wilkins, then an undergraduate protege of J. D. Bernal and W. H. Worster. Wilkins set up his apparatus in Wooster's garage. The photographs show, Wilkins's planks were more than a match for his "bombs".

Despite his failure, he and Bernal decided to continue their scientific career, which subsequently led to his Nobel Prize-winning collaboration with Francis Crick and James Watson DNA

Their criticisms of the ARP programme were not taken seriously. The Association of Scientific Workers was gaining in strength, precisely because it tied together its campaigns for social responsibility in science with its demands for greater social rewards for scientists. Indeed, the Association of Scientific Workers was the more enlightened and progressive members of the scientific élite that many of the radicals' short and even long-term aims were not all that different from those of ours. This was clear from even cursory analysis of the increasingly voluminous left-wing literature on science, including of course Lancelot Hogben's magisterial primer of 1938, *Science for the Citizen* (see p 6).

The common ground between Left and Right increased greatly in the spring and summer of 1938, thanks in no small

New Scientist magazine, Christmas supplement entitled "Nostalgic Science", Dec 21-28, 1978, pp. 4-5.



scientists into the corridors (or at least the antechambers) of power must have astonished and dismayed the scientific establishment. For prior to 1938 the elders of science were lukewarm if not positively disdainful of the political activities of their radical protégés.

In 1938, however, there is a very strong impression one derives from a thorough reading of *Nature* in this period. Indeed,

in the eyes of its editor, Sir Richard Gregory, and other contributors to that journal, the scientific Left would do right. The CSAWG's work was widely

and regularly condemned as "alarmist"

and "politically motivated". The enthusiasm of left-wing researchers for socially responsible science in the Soviet Union was not shared by senior scientists

who were far more disposed to publicise the Soviet regime's "totalitarian" restric-

Gary Werskey's collective biography of British scientists and socialists of the 1930s, *The Visible College*, has just been published by Allen Lane.



Click image for larger view

"A [house collapse resisting] shelter should be designed to absorb some part of the applied energy in its own partial collapse; complete resistance was far too costly ... The Morrison table shelter was ... designed to withstand the debris load of a house by its own partial collapse, whilst still giving adequate protection to the occupants."

- George R. Stanbury, "Scientist in Civil Defence: Part 1", UK Home Office's Scientific Advisory Branch journal *Fission Fragments* (issue 17, June 1971).

The point is, your house is only going to collapse once, so the steel table (Morrison shelter) only needs to resist the kinetic energy of the falling debris of your house once, unlike public air raid shelters. Therefore, the brains of the table shelter is that you can allow a certain amount of denting to take place, and this allows the table to absorb the energy of the falling house without breaking the table. The same idea exists in car bumpers and "crumple zones" which absorb impact energy. **The fear-mongering in 1937 by the Cambridge Scientists Anti-War Group that fire bombing would drive people out of strengthened refuge rooms to be gassed outdoors, simply ignored the deterrence of escalation to gas bombing in WWII. They were groupthink, populist, pro-appeasement, biased dogmatists who allowed politics to blind themselves to the science of civil defence like today's political extremists and anti-civil defence fanatics, whose "authority" is taken always as fact by the self-deluded, lazy media.** Gas was never dropped because we could retaliate, so indoor shelters would have saved most of the Blitz victims:

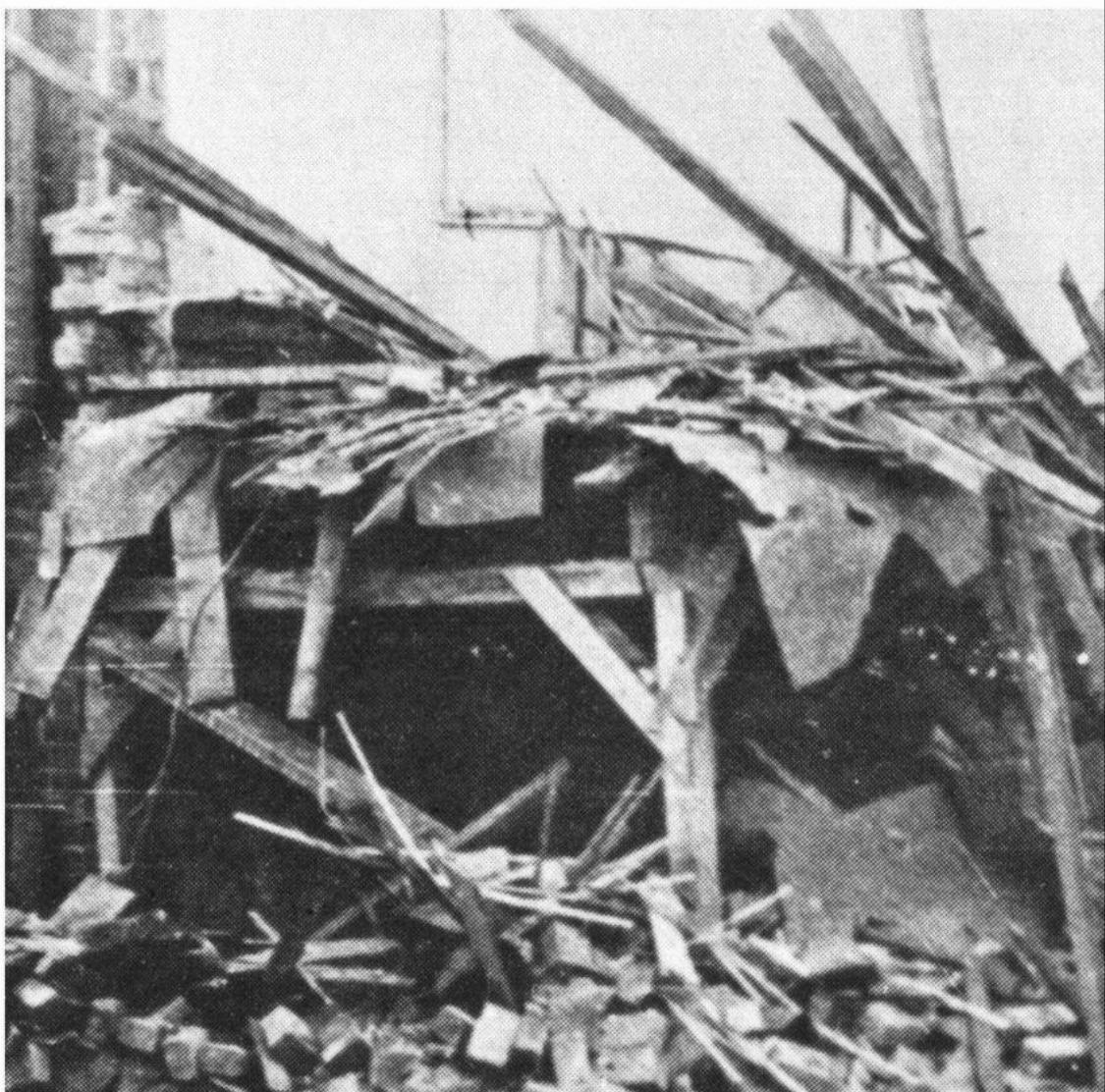


Fig. 6.1

Above: Lord Baker, *Enterprise Versus Bureaucracy: The Development of Structural Air Raid Precautions during the Second World War*, 1978, p43, Fig. 6.1. Note: this photo is government work from 1942 and is public domain. The photo shows the result of an air raid on 23 April 1942 at 11.30pm in Exeter, England: a German 0.5 ton (500 kg) bomb detonated 27 ft from this simple indoor wooden prop shelter, which saved 100% of the lives of those inside it. Both kids and the one woman inside all survived the complete collapse of the house above on this shelter (the house had 9 inch thick brick walls, timber floors and a slated roof, and had been built in 1892). They were in bed, the bed being placed under the wooden support system. This cheap "strengthened room" idea had the advantage for long periods of sheltering (protracted air raid each night during a long blitz campaign designed to wear down morale) that, unlike **the outdoor Anderson shelter**, it was not freezing cold, and did not flood due to ground water seepage in the winter.

If people spend 8 hours a day asleep, they will automatically be in this kind of shelter 33% of the time. With the addition of this technology, or even simple bomb-proof-tested table shelters (see below) used as desks in work places, nearly 100% of the time people will be either protected from bombing, or able to quickly dive under a protective desk. This is of relevance for ongoing wars like the Syrian Civil War, where many lives can be saved by cheap, simple life-saving ideas employing scrap wood from already demolished buildings as proved by the diagrams below.

Most people surveyed in the Shelter Census in London during the 1940 winter Blitz were unable to use their Anderson shelters due to ground water flooding, but the very few (1,365) who had used the **1938 The protection of your home against air raids "inner refuge at home" advice (of a wooden prop strengthened bedroom) were able to sleep in the comfort of their own bed at home, with similar protection and without freezing groundwater flooding their shelters outdoors in winter!**

Sadly, as Lord Baker explains in his excellent book, *Enterprise Versus Bureaucracy: The Development of Structural Air Raid Precautions during the Second World War* (1978, page 42) **only 1,365 protected rooms** of this sort were ever built in England, whereas due mainly to communist propaganda (see below), **3,600,000 outdoor ground water flooding-liable Anderson shelters were built in England** (300,000 shelters affording protection for 1,500,000 had been by 20 April 1939 according to Sir John Anderson's statement in the House of Commons that day; the rest were issued up to June 1941, when the indoor Morrison shelter became the production replacement for the Anderson shelter). We have these records because the air raid wardens in every street in England had to quality-inspect and record shelters to enable rescue planning, etc. **If the indoor shelters had been built from the start, Blitz casualties would have been slashed, and people would have been able to discover and extinguish incendiary bombs in their homes more quickly and thus safely.**

The key problem for shelters in WWII was to make sure that people could actually use them in the situation of the attacks selected by the enemy, which were sometimes engineered to make it as *hard as possible for people to conveniently use outdoor shelters*. **Tunnel shelters beside ground zero in Nagasaki had places for 70,000 but despite a survival rate of 100% only 400 people survived in them because only 400 people were in them, proving that indoor shelters are better for surprise attacks where people have time to reach the shelter in the brief interval from an air raid warning (or the interval between the flash and bang blast wave arrival in a nuclear air raid, e.g. at Hiroshima and Nagasaki in August 1945). So those shelters were totally successful at resisting the explosions, but useless in practice because they weren't occupied.**

WHY ANTI-CIVIL DEFENCE PROPAGANDA DOES NOT GUARANTEE PEACE OR SAFETY, AND CAUSES ESCALATION OF WAR, WHEREAS CIVIL DEFENCE ALLOWS AVOIDANCE OF ESCALATION (THE OPPOSITE OF ANTI-CIVIL DEFENCE PROPAGANDA CLAIMS BY BIASED POLITICIANS)

War generally proves intractable by diplomacy precisely because it has been the failure of diplomacy which has led to the warfare in the first place. Diplomacy is thus the means which always caused, rather than prevented war, or as Clausewitz explained: "war is the extension of politics". This truth was proved time and again when diplomacy led to sanctions against Japan after it invaded China in 1937, thus causing the surprise attack on Pearl Harbor and WWII in the Pacific Theatre, and also when Britain's treaty with Belgium led to WWI, or its treaty with Poland led to WWII in the European Theatre. All wars tend to occur because diplomacy isn't working. So to try to use diplomacy to end war, when it is the failure of diplomacy which has caused the war in the first place, is like trying to put out a fire using a match. Sure, once the fire has burned itself out, the match can be dropped on the ashes and everyone can delude themselves that the match (diplomacy) has "put the fire out". (But it works faster if you drop a couple of big bombs before diplomacy.)

Why censor out the sure way to save lives in war, and **endlessly claim falsely that civil defence was a war-mongering disaster that never worked?** One of genius James Delingpole's friends, **Richard North, in a series of online articles called The Shelter War**, has been duped by the "deep shelter" delusion into politically attacking and "discrediting" the better protection from dirt cheap improvised indoor shelters that would have offered effective protection at dirt cheap cost for millions of people had not his "working class heroes" (like rich don J. B. S. Haldane **on the left**) **endlessly attacked indoor shelters prior to WWII. Haldane, and North, have promoted the totally deceptive and fully discredited, communism (politically)-biased theory** that "only expensive deep shelters offer any real protection". It was the exaggeration of incendiary fire risks from Haldane and the "Cambridge Scientists Anti-War Group" (a Marxist front endorsed in general by Haldane) that forced the Anderson shelter (originally intended as an indoor shelter to protect against house collapse, utilizing house damage to absorb the blast energy, as earth cover does in outdoor shelters) to be relocated from indoors to the cold, ground water flooded outdoors with a damp earth covering. In other words, *they ruined the Anderson shelter for winter use by most people*. The winter 1940 London Shelter Census showed that most people with Anderson shelters did not use them during air raids at night in cold weather when they were flooded, because pneumonia was a much more certain mortality risk than bombs. Shelters that are unusable are useless.

Contrary to all the communist propaganda that Richard North regurgitates uncritically and with reverence, deep shelters would have *lost England the war due to*

- (1) The cost,
- (2) the resources needed to make them (diverted from the war effort),
- (3) the ease with which the enemy could adapt its bombing campaign to take advantage of softer targets left defenseless while people moved into deep shelter,
- (4) surprise attacks to catch people before they could reach deep shelters (e.g. at Nagasaki),
- (5) invasion while people were hiding in their deep shelters (it's very easy to seal up shelter entrances, or to shoot people as they leave once you have invaded), and
- (6) the biggest single air raid disaster in World War II England was caused not by the Germans or by cheap shelters but by the use of the underground as deep shelter when 173 people (62 kids, 84 women) were killed in the crush to enter Bethnal Green Underground in London's East End during a rocket test in Victoria Park, 3 March 1943.

Thus, deep shelters, when presented as a solution to civilian casualties in war, can be Maginot Lines.

TOP SECRET

ANNEX A

NUCLEAR RETALIATION PROCEDURES

PRESENT PROCEDURES

A. Conversation with the President

1. A general decision whether to launch strategic nuclear forces, British and American. (Macmillan-Kennedy general understanding).
2. Operational use by United States forces of bases in the United Kingdom.
 - (a) S.A.C. airbases (Attlee-Truman agreement for "joint decision").
 - (b) Polaris submarine bases (Holy Loch).
(Holy Loch agreement, 1960 for "joint consultation").
3. Use of Bomber Command THORS. (1958 agreement - Command 366).
4. Clearance for launching of:
 - (a) United States tactical nuclear aircraft in United Kingdom assigned to SACEUR;
(Murphy-Dean agreement).
 - (b) United Kingdom tactical nuclear aircraft in United Kingdom assigned to SACEUR and carrying United States nuclear warheads.
(Murphy-Dean agreement).
5. Clearance for SACLANT to launch British nuclear striking

forces in his command (not yet finalised).

6. Declaration of R-hour (i.e. the time at which nuclear weapons may be released) by SACEUR and SACLANT. May they declare it at discretion? If not, when?

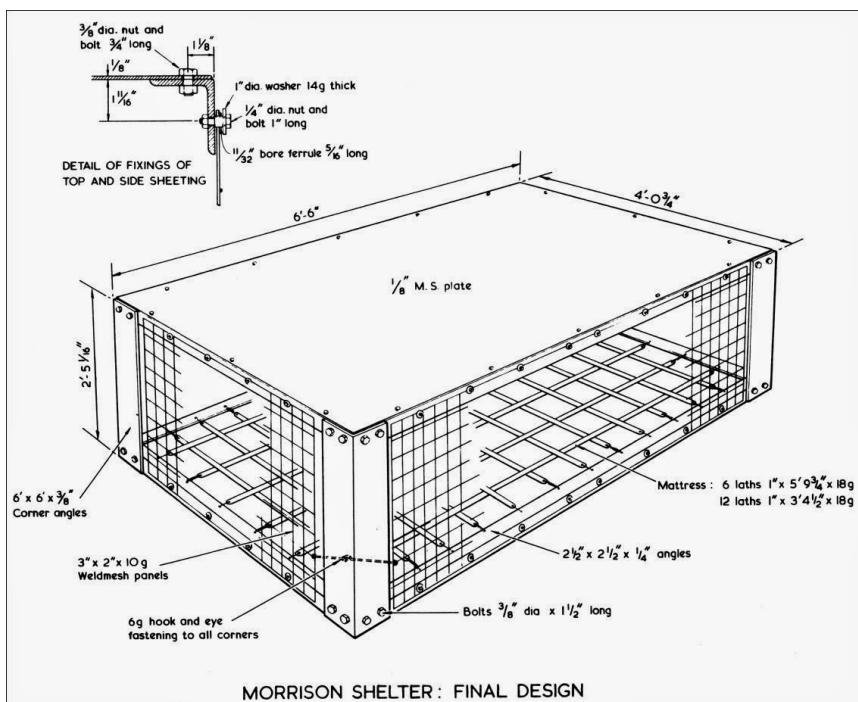
B. Conversation with SACEUR

1. Declaration of R-hour (see A. 6 above)
2. Launching of his tactical nuclear aircraft based in United Kingdom (see A. 4 above).

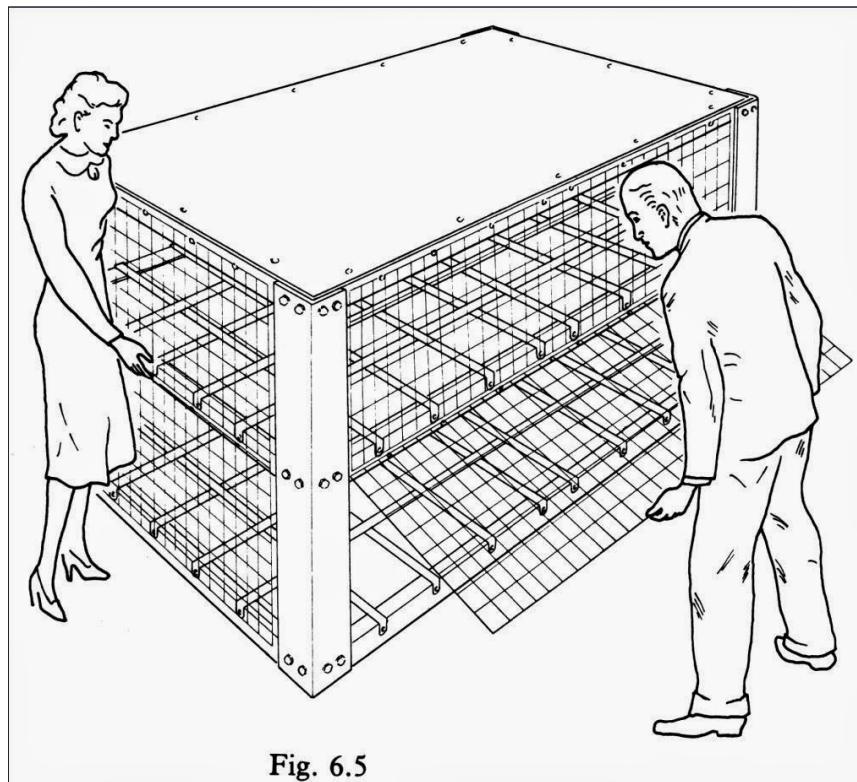
-12-

TOP SECRET

Above: formerly secret British-American nuclear "retaliation" procedures utilising military escalation through retaliation instead of life-saving civil defence (**UK National Archives document DEFE 25/49**, see also reference [DEFE 25/49 image linked here](#)). In 1937, cheap indoor civil defence recommended by the UK Government was falsely claimed by communist physicist J. D. Bernal's "Cambridge Scientists' Anti-War Group" (the precursor to modern lynch mobs like FAS, CND, SANA, Greenpeace, etc.) to be a con, using exaggerations of escalation to gas (including mustard liquid fallout type contamination, a protracted threat like radiation) in world war, by discounting the efficiency of civil defence and exaggerating blast and fire effects. The 1937 scale of "predicted knockout blow" in conventional bombing was equivalent to nuclear war. This is after a proper correction of bomb yield for damaged areas, using the correct scaling laws, which are not linear arithmetic but weaker than linear powers - in other words, **bigger bombs produce considerably smaller damage areas per ton of TNT than smaller ones, and they also take longer to destroy the damaged area because the blast arrival time and thermal flash duration over the wider area of destruction gives time for simple evasive action**.



Above: Morrison indoor shelter June 1941. 500,000 were distributed free in 1941, but by then the biggest raids of the war (1940) were long over. The lesson is that nearly 60,000 air raid lives were lost due to a blunder of bureaucratic "groupthink" in which the "scientific authority" (a contradiction of terms, unless science is allowed to revert to the bad old days of celebrity culture as in Aristotle's time) of a handful of celebrity physicists asserting falsehoods for political ends. As Lord Baker's book 1978 *Enterprise versus Bureaucracy* reveals, is to allow facts to achieve a fair hearing and not to allow bureaucratic dogmatic political lies to delay life-saving civil defence innovations.



Above: Two tier Morrison shelter made for large family bunk beds in 1941. The Morrison shelter inventor, Lord Baker, in his widely ignored 1978 book *Enterprise versus Bureaucracy*, Table 7.1 on page 61 proves that for 119 Morrison shelter occupants in Type A house destruction (complete demolition) only 3 died, a survival rate of 97.5%. Baker's Table 7.1 also shows that *nobody* died in any of the Morrison shelters in Type B or C damage zones (houses beyond repair and houses uninhabitable, respectively).

Without Morrison shelters and without any duck and cover, the mortality rate indoors was 61.9% in Type A damage (complete collapse of house) for 155 people within 70 feet of V2 supersonic missile explosions (1 ton TNT warhead), as proved by the 1946 U.K. Ministry of Home Security, Research and Experiments Department report S118, *A Comparison of the Standardized Casualty Rates for People in Unprotected Parts of Dwellings Exposed to Rocket Bombs (V1) and Flying Bombs (V2)*.

For duck and cover data using casualty data for V1 missiles (again 1 ton TNT equivalent), which were subsonic and emitted a distinctive loud throbbing sound (which my father still remembers from 1944), 23.5% were killed within a 70 ft radius (Type A damage, complete demolition of houses), as proved by Dr D. G. Christopherson's celebrated confidential-until-1975 classified Ministry of Home Security report RC450, *Structural Defence* (as rounded to 25% in the American 1957 *Capabilities of Atomic Weapons* and 1972 *Capabilities of Nuclear Weapons* EM-1).

So there you have the vital facts in a nutshell:

2.5% of people were killed in cheap indoor Morrison shelters in houses subjected to total collapse (Baker, 1978).

23.5% of people were killed while ducking and covering in houses subjected to total collapse (RC450, 1945).

61.9% of people were killed when caught totally unprepared in houses subjected to total collapse (S118, 1946).

The V2 was more deadly for complete collapse than ordinary or nuclear bombing, because there was no time for duck and cover (due to the supersonic speed of the

missile and the fact that WWII radar only worked for aircraft, not missiles reentering virtually from space). In conventional and nuclear attack, the approach of aircraft or the flash to bang delay time normally allow duck and cover, which is why all the politically-biased computer propaganda "predictions" of blast casualties for Hiroshima and Nagasaki (which ignore duck and cover entirely) exaggerate the observed casualty rates for people indoors (also for people wearing clothing outdoors, since the 1979 U.S. Congress Office of Technology Assessment fraudulent study, "The Effects of Nuclear War" assumes everybody outdoors in a high rise city are nude and in unobstructed Nevada desert, to exaggerate computer "predictions" of burns).

I placed this above comment also giving the facts about survival in cheap shelters, on Richard North's blog, but it was soon deleted with no explanation. I won't speculate about some of the nefarious, anti-debate, egotistic, paranoid delusions of supporters of child killing bigots, but let's just say that their alleged "professional research" is like a Marxist history based entirely on the rantings of Stalin, dressed up as academia, with copious footnotes and detail that is irrelevant and simply ignores all basic facts. They just delete any reference to the truth that blows their cover, or they try to shoot the messenger. People are needlessly and painfully dying in wars because of obfuscation tactics and political bigotry. You'll never find any big shot journalist/historian/physicist, whether "right" or "left", telling these facts! They will slow-handclap the truth so it simply won't be heard, and laugh off facts, while making up lies about their proponents and then "closing down the argument" to ban any reply.

SCARE MONGERING ON NUCLEAR WEAPONS IN THE 1940 UK NATIONAL ARCHIVES REPORT AB 1/210, "MEMORANDUM ON THE PROPERTIES OF A RADIOACTIVE SUPERBOMB" BY (EXPLOSION EFFECTS AND CIVIL DEFENCE IGNORANT) BIRMINGHAM UNIVERSITY PHYSICISTS OTTO FRISCH AND RUDOLPH PEIERLS:

4/6/46 *11/2/71* *51*
Strictly Confidential

Memorandum on the properties of a radioactive "super-bomb".

The attached detailed report concerns the possibility of constructing a "super-bomb" which utilizes the energy stored in atomic nuclei as a source of energy. The energy liberated in the explosion of such a super-bomb is about the same as that produced by the explosion of 1000 tons of dynamite. This energy is liberated in a small volume, in which it will, for an instant, produce a temperature comparable to that in the interior of the sun. The blast from such an explosion would destroy life in a wide area. The size of this area is difficult to estimate, but it will probably cover the centre of a big city.

In addition, some part of the energy set free by the bomb goes to produce radioactive substances, and these will emit very powerful and dangerous radiations. The effect of these radiations is greatest immediately after the explosion, but it decays only gradually and even for days after the explosion any person entering the affected area will be killed.

Some of this radioactivity will be carried along with the wind and will spread the contamination; several miles downwind this may kill people.

In order to produce such a bomb it is necessary to treat a few cwt. of uranium by a process which will separate from the uranium its light isotope (U_{235}) of which it contains about 0.7%. Methods for the separation of isotopes have recently been developed. They are slow and they have not until now been applied to uranium, whose chemical properties give rise to technical difficulties. But these difficulties are by no means insuperable. We have not sufficient experience with large-scale chemical plant to give a reliable estimate of the cost, but it is certainly not prohibitive.

It is a property of these super-bombs that there exists a "critical size" of about one pound. A quantity of the separated uranium isotope that exceeds the critical amount is explosive; ~~++~~. The bomb would therefore be manufactured in two (or more) parts, each being less than the critical size, and in transport all danger of a premature explosion would be avoided if these parts were kept at a distance of few inches from each other. The bomb would be provided with a mechanism that brings the two parts together when the bomb is intended to go off. Once the parts are joined to form a block which exceeds the critical amount, the effect of the penetrating radiation always present in the atmosphere will initiate the explosion within a second or so.

The mechanism which brings the parts of the bomb together must be arranged to work fairly rapidly because of the possibility of the bomb exploding when the critical conditions have just only been reached. In this case the explosion will be far less powerful. It is never possible to exclude this altogether, but one can easily ensure that only, say, one bomb out of 100 will fail in this way, and since in any case the explosion is strong enough to destroy the bomb itself, this point is not serious.

We do not feel competent to discuss the strategic value of such a bomb, but the following conclusions seem certain:

1. As a weapon, the super-bomb would be practically irresistible. There is no material or structure that could be expected to resist the force of the explosion. If one thinks of using the bomb for breaking through a line of fortifications, it should be kept in mind that the radioactive radiations will prevent anyone from approaching the affected territory for several days; they will equally prevent defenders from reoccupying the affected positions. The advantage would lie with the side which can determine most accurately just when it is safe to re-enter the area; this is likely to be the aggressor, who knows the location of the bomb in advance.

+++ yet a quantity less than the critical amount is absolutely safe.

Notice the false claim that there is no simple way to shield the fission product radiation, and no concept of clean nuclear weapons (proof tested just 16 years later at Bikini). Making up lies has always been the way to attract research funding, and if you mark your report "Strictly Confidential" (like they did), you're totally immune from public scrutiny and objective criticism by the millions of democrats in your country, who between them, might just threaten to expose your false assumptions!

CIVIL DEFENCE: Relevant to Survival in blast-unrelated house 10/11

Daily Express Wednesday November 19 2014 5

By Giles Sheldrick

A FATHER and his young daughter had a "miraculous" escape when their home was reduced to rubble in a suspected gas explosion yesterday. Neighbours helped to dig Jay Sabanal and his four-year-old son out of the rubble after one spotted the debris of their two-storey home.

As Darren Terrell, 38, ran barefoot towards the scene of the blast in Southampton, he heard Mr Sabanal desperately shouting for help to save his daughter.

Mr Terrell said: "My wife and I were in bed when we heard a bang and our whole house shook. At first I thought there must have been a fire in the next door's garage but then on the corner had exploded. There was a window or door left."

A man was calling, saying: "Can you find my daughter? It seemed like she was under there." But we couldn't see her. Then I saw a foot and managed to move the rubble off it to get her out. She was bleeding and pulled her out."

Both father and daughter had been admitted to hospital but escaped serious injury. They were being treated early yesterday. Incredibly both suffered only minor injuries.

Mr Sabanal's wife Liberty, a nurse at Southampton General Hospital, was admitted to the intensive care unit when she discovered her son was missing. Both father and daughter were being treated in the A&E department.

Mrs Sabanal, 36, originally from the Philippines, said: "My world collapsed as well when I found out I had a son. I didn't know what they were telling me. It's a miracle he survived. He was in shock and I was so relieved when Jay had a scan and it showed he had no fractures at all."

"He's got no fractures at all," says Dr Mark Hinchliffe, who treated Jay. "He's in shock, somehow he's only got a couple of cuts and grazes. He's been very lucky too, escaping with only two cuts and grazes."

"We're going to be sick after the explosion and it's going to take a long

Example of people surviving with minor injuries in blasted home.

Blast energy was absorbed in wrecking home, saving nearby house.

Miracle escape

Dad and daughter, 4, survive blast that turned home into rubble



Richard North's "miracle" of survival in blast demolished house without a deep shelter. Every shelter survival fact that disagrees with biased dogmatic politics is called a "miracle" or an exception, a fluke. It is then censored out as "propaganda" while his own lies are asserted as uncontested.

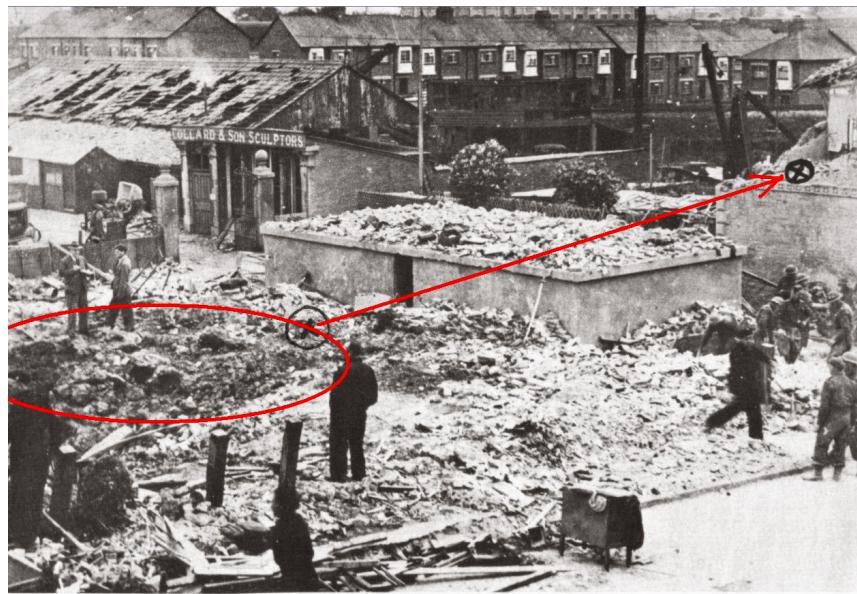


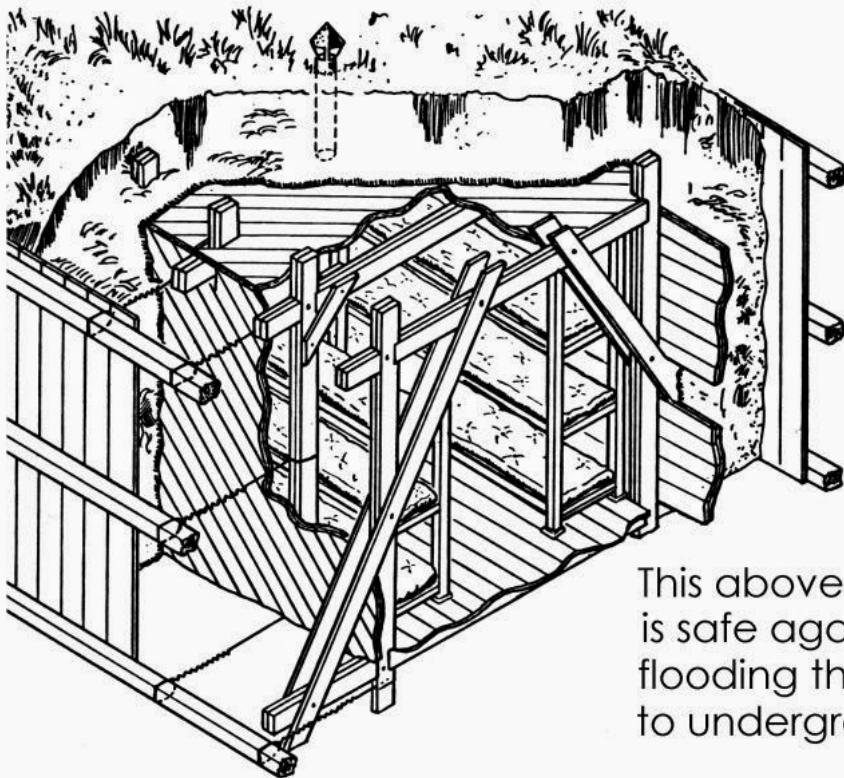
Fig. 7.5

Above: air raid result of 250 kt bomb exploding at 1.45 am on 4 May 1942, in Exeter, producing 34 ft diameter crater, 12 ft deep, with the crater actually engulfing a house containing a Morrison table shelter. The blast ejected the Morrison shelter with its 3 occupants (2 kids, 1 adult) a distance of 46 feet over a nearby concrete communal surface shelter (which survived, middle of photo) and on to the first floor of another house, as shown by the red arrow. Lord Baker explains the 67% survival rate in that Morrison shelter (shelter 180, case 55) on page 68 of *Enterprise versus Bureaucracy*: "One child was only slightly injured, but the other child and the adult were taken to hospital where the child subsequently died. The shelter [in the house next door] in No. 176, Case 56, was treated slightly less violently.

It was blown 6 feet away and landed 5 feet up on the debris of the house. It was undamaged and the four occupants, unhurt, escaped unaided.

(Emphasis added.)

PROOF-TESTED OUTDOOR ABOVE GROUND WOOD AND EARTH SHELTER

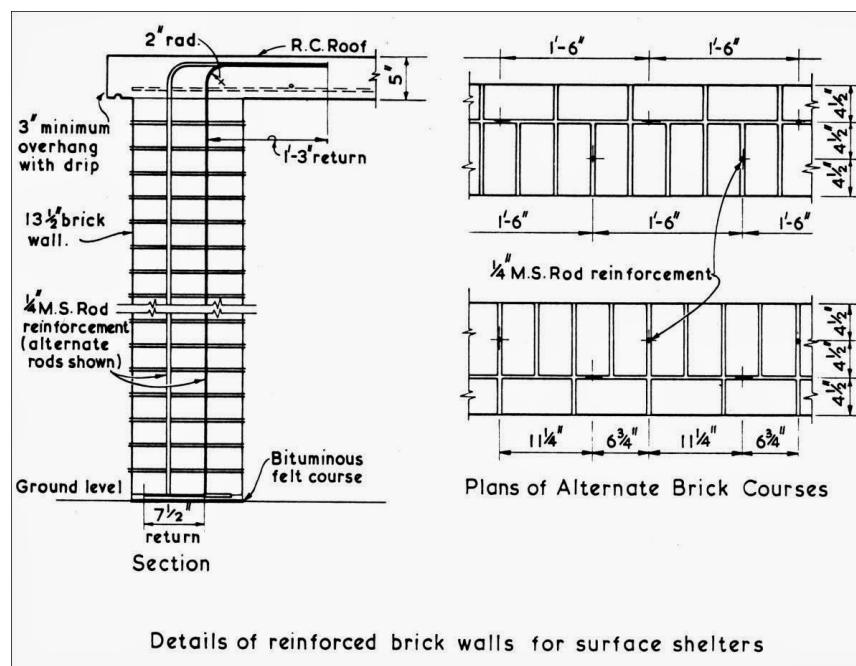


No casualties in test at 20 ft (250 kg TNT)
(Minor damage to shelter from the crater del

This above ground shelter is safe against ground water flooding that occurs in winter due to underground shelter/tunnel flooding.

UK Home Office Research and Experiments Department Bulletin C26, *Timber shelters for countries where timber is plentiful and steel difficult to obtain*, April 1942. This is a surface (not underground) wooden shelter with 2.5 ft earth fills in the gap between two wooden walls, and on roof.

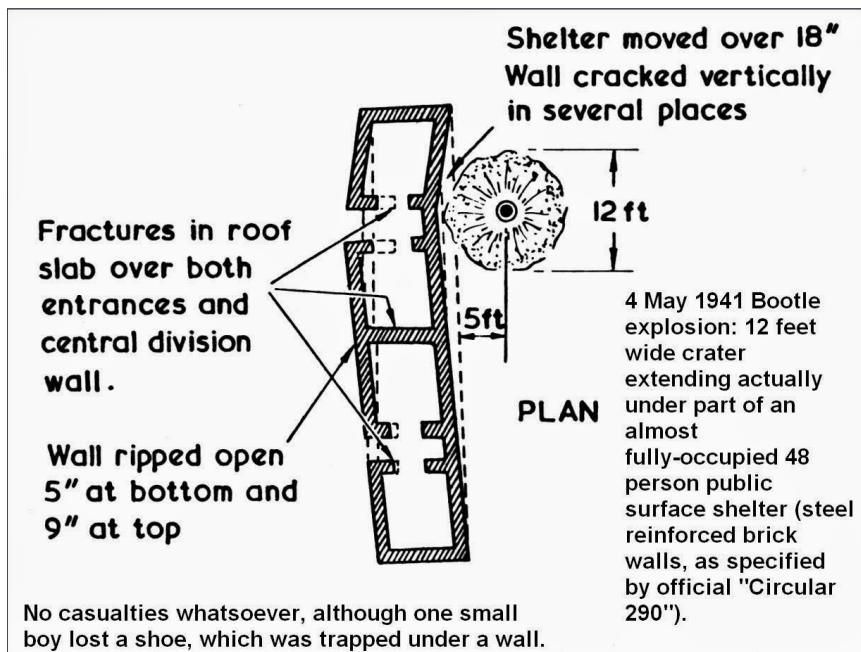
Above: Proof tested outdoor warm and dry unfloodeable wooden WWII English shelter. Source: U.K. Ministry of Home Security, Research and Experiments Department Bulletin April 1942, *Timber shelters for countries where timber is plentiful and steel difficult to obtain*. Why the devil is all this proof-tested data excluded from present day civil discussion, you may well ask. Secrecy and politically bigoted censorship is the depressing reply. **Nobody, at least in the big-money making professions of mainstream h mainstream science, mainstream technology, or mainstream politics, and wants to even admit the existence of any facts that give a cheap technological fix to a problem that people, for millions of years, have sought to solve by diplomacy, even when it is a hard proved fact that diplomacy is precisely what causes wars in the first place is the extension of politics."**



Above: in 1940 another error by Sir John Anderson with regard to shelters cost many lives when obfuscation on shelter construction led to the use of *lime* mortar (which is relatively normal house walls) instead of *cement* mortar in the building of surface brick shelters (in areas where the ground water all year round prevented underground Anderson shelter lime mortar shelters proved useless unless they were modified as suggested by Baker, with steel rods inserted into walls to provide ductility, as shown above by Lord Baker in *Engineering versus Bureaucracy*, taken from the out of copyright report *Circular 290 Reinforced Brick Shelter*). Baker explains on page 37 that the resulting strength of the steel beam reinforced brick walls made them excellent blast shelters, as proved by a cine film of a shelter with its remote end 37 feet from a 250 kg explosion, where the ground shock acceleration was

"This shelter, known officially as *Brick Surface Shelter reinforced in accordance with Circular 290* was an immediate and immense success in exactly the form in which it left engineer's drawing board. It went straight from the drawing board to the municipal engineers to be built in thousands on our city streets long before the tests had been carried out, the urgency as mentioned in my Minute of 26 October [1940] to Stradling.

"The first recorded incident involving a Circular 290 Reinforced Brick Shelter occurred on the night of 9th April, 1941, at South Shields. A very large 1000 kg bomb fell 38 feet end of the shelter which had six occupants. The crater formed was 55 feet in diameter and 13 feet deep in clay ... no occupant received any injury. Ten days later a similarly constructed public surface shelter was subjected to an even more severe test in London at West Ham ... there were no casualties. ... on the night of 4th May, 1941, in Bootle ... a 48 person surface shelter [illustrated below] ... was occupied almost to full capacity ... the crater broke right under the shelter ... no occupant was injured, but one was inconvenienced. He was a boy who was highly indignant because the wall of the shelter had not only moved laterally, it had lifted and in coming down again had trapped the welt of his boot, so that he had to escape from the damaged shelter barefoot. ... What was remarkable, of course, was the resistance of the human frame to the enormous accelerations to which the shelterers were subjected."



These steel-reinforced brick surface shelters were tested in controlled experiments using a 250 kg bomb at 15 feet distance in Richmond Park, London, on 19 June 1941, *after it already been proved in actual air raids, occupied by Joe Public!* Such is the slowness of bureaucracy for Health and Safety, versus the practical demands of real war. (See 1978 book, at pages 39-40 for details of the Richmond Park test.) In addition, blast walls of brickwork, with ductility due to steel rods that ensured they did not fragment into a when hit by an overpressure beyond their design limit, were proof tested by Baker's team and then used to protect factories workers by absorbing energy and diffracting blast wave and away from people and machinery:

Ministry of Home Security, Protective Walls in Single storey Factories, Bulletin B10, September 1941:

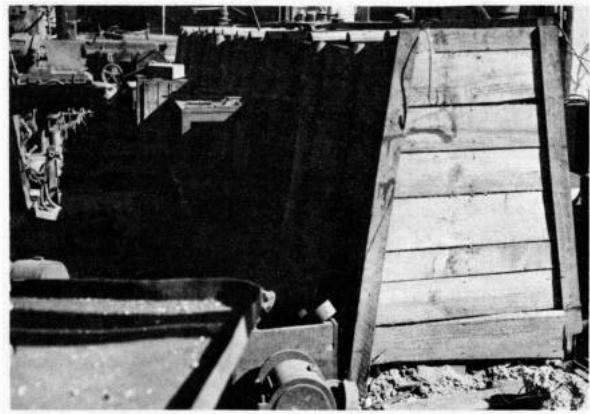
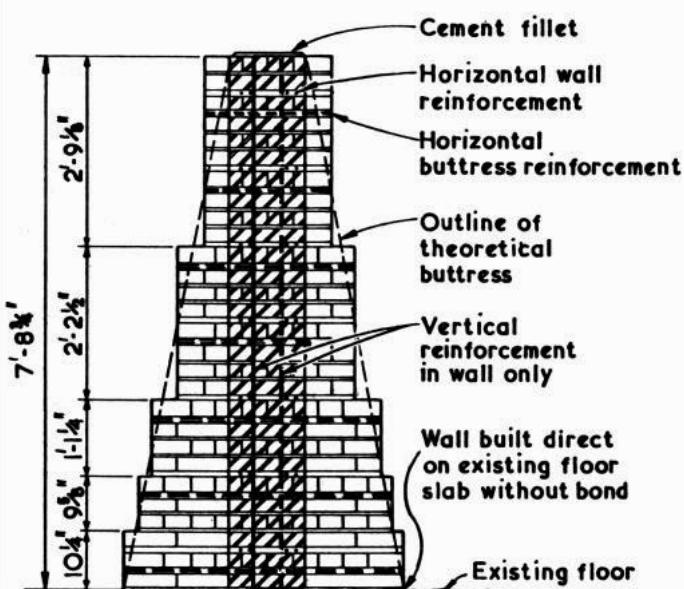
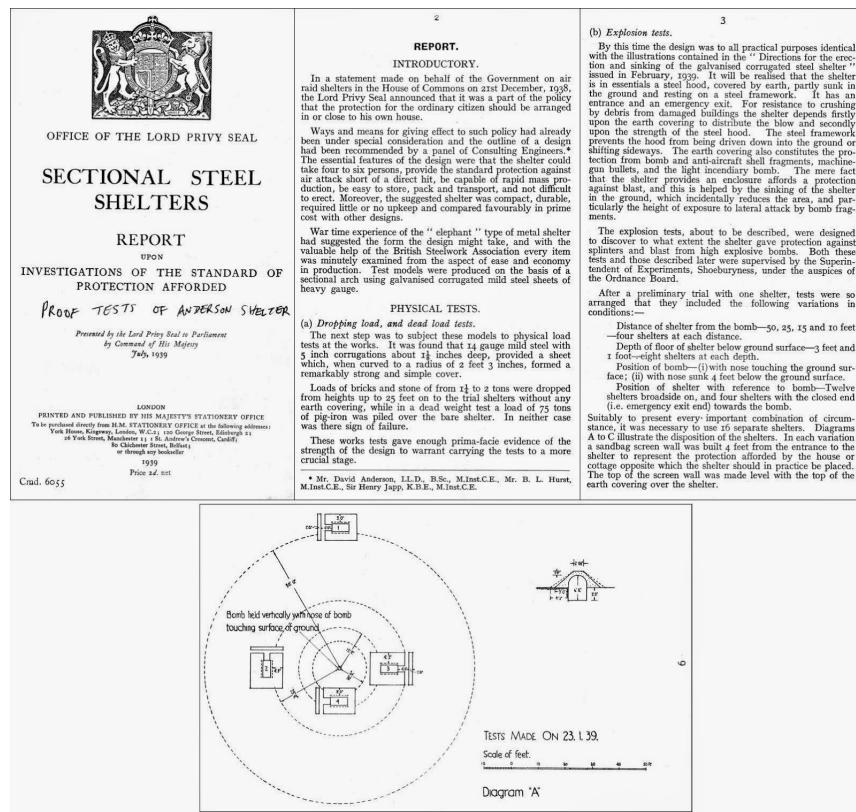


Figure 12.37c. Earth-filled, wooden blast walls protecting machinery (0.85 mile from ground zero at Nagasaki).

Glasstone, Effects of Nuclear Weapons, 1957: blast wall

Blast wall is preferably given reinforced foundations to prevent overturning. Steel rod reinforcing rods pass through centre of brick work to ensure that wall is not brittle, but bends when overloaded due to ductility of steel, which absorbs blast energy in deformation (this prevents the wall from becoming dangerous fragments). The wall was proof tested to take 250 kg bomb at 20 feet; cruder blast walls were found intact protecting transformers in Nagasaki after a 21 kt nuclear weapon explosion, 0.85 mile ground range.



Above: As Terrence O'Brien explains in his widely ignored official history of civil defence in the UK in WWII which I scanned in and put on the Internet Archive (it is out of copyright now), communist propaganda focussing on exaggerated gas threats and incendiary bombs diverted civil defence attention by mainstream politicians (who trust left wing newspaper liars) in the 1930s away from the real need for indoor house collapse protection, relocating the Anderson shelters outdoors and appeasing the Nazis instead of providing real protection.

Richard North inevitably just dismisses O'Brien's history of civil defence as some bizarre kind of anti-communist propaganda by some bizarre kind of evil capitalists trying to maximise deaths in war, which is of course partly the fault of O'Brien for not giving any scientific evidence or even shelter test report summaries to back up his claims for the effectiveness of cheap civil defence bombing countermeasures in WWII. We blame Richard North for failing to do any proper research to ascertain the actual facts we have discussed here, based on actual data. The whole reason why the "climate change" liars have got away with peddling falsehoods is the trash circulated by people like him, who (unless I am mistaken) prefers abusive dogmatic drivel to true scientific reasoning and the detailed facts that most newspapers will dismiss and reject as being "technical copy".

Because they believe that science is a religion with authorities and sacred texts like peer-reviewed lies, you can't criticise groupthink science in mainstream media today without millions of ignorant indoctrinated PhD waving bigots writing in to complain and request the editor to stick to the mainstream theory that they received a grade A for after memorizing a textbook (unless by a fortunate coincidence it happens to coincide with science fantasy of a popular sort, like tales of spaceships entering black holes or similar). This is why it has gone down the tubes. It's now the domain of dishonest power-drunk authority figures and their sycophants, who defend the heroes using "shoot the messenger" abuse directed at all criticisms.

Anyone who tries to politely tell them the real facts about how to save lives in real wars occurring today is simply censored out or attacked (shoot the messenger dictatorship tactics) by powerful, ignorant, bigoted persons who I believe don't really care about the kids being massacred by bomb damage in Syria or any other real problem that cheap, practical information can help defeat. Any attempt at a scientific discussion always turns into a paranoid, emotional tantrum by professional bureaucrats, where the evidence is ignored and is not passed on to Joe Public. Of course, they get applauded by their fashion seeking groupthink consensus-loving fan base of sycophants, while the person telling them the truth is always the one falsely misquoted out of context and dismissed as being the one paranoid or having a tantrum, which is probably just justifiable frustration at being treated so irrationally by power-abusing dogmatic bigots who haven't done a day's really honest work in their lives: "if you get angry, that proves you are wrong." (Quotation from V. Putin, the hero of today's big brother "socialist" dictatorship lovers). (Of course, Putin is an exception to his own rule. If you were to make him angry with facts he doesn't want to hear, I somehow doubt that he would say: "You have made me angry, thus I am wrong.")

Mr Putin now has a rouble crisis due to the sanctions against Russia due to the Crimean War. If this escalates, it will probably do so unpleasantly:

"Russia plunges into fresh crisis with dramatic rouble collapse as pressure piles on Putin"

THE RUSSIAN economy plunged into fresh crisis today as the rouble began to free-fall on currency markets, despite dramatic emergency action by the country's central bank.

The price of Russia's currency dropped a whopping 20 per cent against the US dollar earlier today, as it sunk to a series of historic lows. This morning's staggering drop extended yesterday's 10 per cent decline, with a dollar buying 77 roubles by lunchtime in the UK. The rouble has since rallied slightly, but is still 12 per cent down in total today.

A dollar now buys around 65 roubles, a British pound sterling buys 102 roubles and a Euro buys 82 roubles. The plunging price of the rouble is the worst fall since the Russian financial crisis in 1998.

It also appeared to signify a complete loss of confidence in the Russian central bank, following a dramatic interest rate hike this morning. In a failed bid to attract investors, ahead of the opening of global markets, Moscow's central bank raised interest rates to 17 per cent from 10.5 per cent.

Russia has been battered by sliding oil prices as well as Western sanctions following President Vladimir Putin's actions in Crimea and eastern Ukraine.

The ongoing economic collapse now presents Mr Putin with the biggest crisis of his 15-year stranglehold on power. Having enjoyed the political benefits of economic security, the Kremlin leader could now see growing opposition if Russian voters continue to be affected by market turmoil and falling oil prices.

Nicholas Spiro, managing director of Spiro Sovereign Strategy in London, said: "Putin rode the wave of higher oil prices in the years after he came to power, but there is no question that the economics will start to adversely impact the politics.

"The pieces are falling into place to start to affect the political sustainability of this regime."

Prime Minister David Cameron placed the blame for the rouble rout squarely on Mr Putin's shoulders, following Russia's antagonistic foreign policy in recent months.

Western powers heavily criticised Russia's annexation of the Crimean peninsula in March this year, while Mr Putin has also been accused of secretly backing pro-Russian separatist groups in eastern Ukraine.

Mr Cameron's spokesman said: "The fall in the global price for oil is a global phenomenon but Russia has made itself more vulnerable to economic shocks as a result of the relative isolation through sanctions that it has faced because of events in Ukraine. If Russia continues to choose not to take the path of de-escalation it will continue to face consequences."

While some will be pleased that "sanctions are working", everybody should remember that when you seal up a pressure boiler and heat up beyond its containment strength, the steam pressure may not always hiss out of a rupturing joint quietly. It may just explode "unexpectedly".

Remember what happened when Germany's economy was crushed first by WWI reparations causing hyperinflation in 1923, then by the 1929 stockmarket crash which ended lucrative international trade exports to America for years, and then by the immense Nazi socialist "full employment" spending programs of the 1930s on weapons, the autobahn, etc. Robbing the rich helped to put off WWII for a few years, but in the end Hitler went off the deep end and invaded Poland, in the belief that a foreign war of conquest to the East would expand the borders and help pay debts, put bread on tables, etc.

The point is, historians tend to ignore the hidden economic agenda impetus behind wars, be it the Nazis or Putin's pressure from the falling price of oil. As we pointed out in the previous post on this blog (24 August 2014), **Putin needs Brent crude oil to average \$117 dollars a barrel just to balance his economy.** (See [here for source of the \\$117/barrel threshold figure](#).) The Brent crude price has, since that was written in August dropped to just **\$61 dollars a barrel (15 December 2014)**

This doesn't prove that Putin is going to rebuild the USSR or invade America tomorrow to deflect attention from his domestic problems, but while we should not scare monger, please remember the complacency on 7 December 1941 when Japan tried an innovative way to get around an oil sanctions problem imposed by America after it occupied China.

https://ycharts.com/indicators/brent_crude_oil_spot_price

Brent Crude Oil Spot Price: 61.09 USD/bbl for Dec 15 2014 [Add to Watchlists](#)

Overview Interactive Chart News

Brent Crude Oil Spot Price is at a current level of 61.09, down from 61.67 the previous market day and down from 108.08 one year ago. This is a change of -0.94% from the previous market day and -43.48% from one year ago.

Category: Energy

Report: Weekly Petroleum Status

Region: N/A

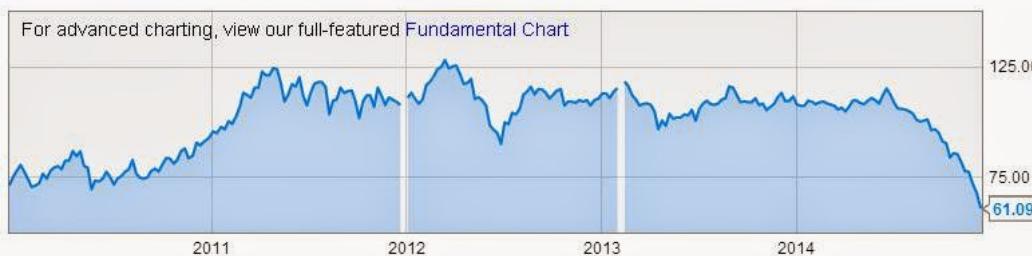
Source: Energy Information Administration

Brent Crude Oil Spot Price Chart

[View Full Chart](#)

5d 1m 3m 6m YTD 1y 5y 10y Max

[Export Data](#) [Save Image](#)



Above: "Putin's spending binge means that, for the budget to balance, Brent crude must now average around \$117 a barrel, more than five times the level needed in 2006, according to analysis from Deutsche Bank. Even that is not enough for top officials. Interior Minister Vladimir Kolokoltsev, said last week that, in 2013, the average bribe in Russia had doubled to \$4,000." - Oliver Bullough is Caucasus editor at the Institute of War and Peace Reporting. His most recent book is "The Last Man in Russia", detailing the demographic decline of the Russian nation.

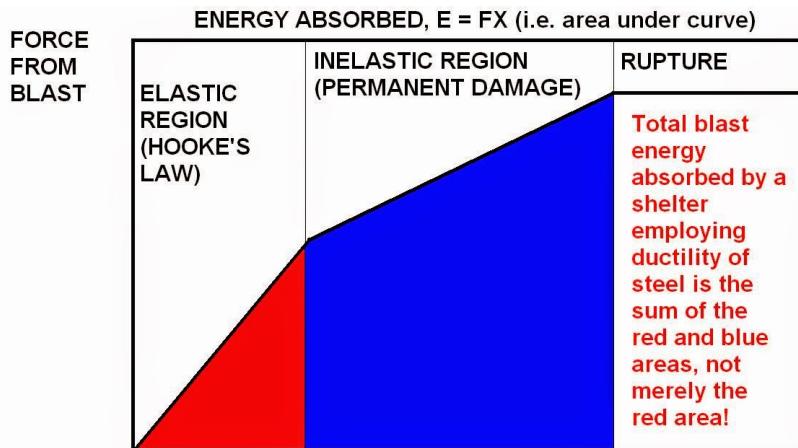
SUMMARY OF KEY FACTS TO REMEMBER FROM THIS ARTICLE:

Lessons for the future can be derived from the following facts:

If the UK Government indoor sheltering scheme had not been **attacked by influential "anti-war" liars like J. D. Bernal's dangerous groupthink fanatics**, appeasement would not have been needed in 1937 and Hitler could have been deterred or fought with fewer lives lost before he was ready for war (Britain was losing the arms race during the appeasement era, because the enemy was rearming faster, thus instead of "buying time" as Chamberlain's propaganda claimed, it was really losing time because the gap was widening, the traditional approach to this fact is to ignore it and to refuse to learn the lesson!). Seen this way, it is militant lying "pacifists" who engineered the slaughter of WWII, by attacking proved civil defence countermeasures using fiction, sophistry and specious nonsense dressed up as reason. In fact, the real "terrorists" of WWII were not the enemy which never dropped gas bombs during the war, but the liars who spread hate agenda terrorism propaganda before the war in order to foster "tolerance" of racial hatred towards Jews in Stalin's Russia and in Hitler's socialist Germany, to personal acclaim (Nobel peace prizes, media hyperbole, etc.), and who attacked the life-saving indoor shelter policy and replaced it with water flooded Anderson shelters. The media were in a cartel agreement with the motor-mouthed academics who had never done a blast calculation or tested a bomb in their lives, but claimed expertise.

For earlier research, see also a PDF of the July 1939 British Government report on the results of high explosive proof testing of the World War II Anderson shelter, "Sectional Steel Shelters", Command Paper number 6055, please click here (this PDF document compilation at https://archive.org/details/Anderson_shelter also contains relevant results of nuclear weapon tests).

In 1937, cheap indoor civil defence recommended by the UK Government was falsely claimed by communist physicist **J. D. Bernal's "Cambridge Scientists' Anti-War Group"** (the precursor to modern lynch mobs like FAS, CND, SANA, Greenpeace, etc.) to be a con, using exaggerations of escalation to gas (including mustard liquid fallout type contamination, a protracted threat like radiation) in world war, by discounting the efficiency of civil defence and exaggerating blast and fire effects. The 1937 scale of "predicted knockout blow" in conventional bombing was equivalent to nuclear war. This is after a proper correction of bomb yield for damaged areas, using the correct scaling laws, which are not linear arithmetic but weaker than linear powers - in other words, **bigger bombs produce considerably smaller damage areas per ton of TNT than smaller ones, and they also take longer to destroy the damaged area because the blast arrival time and thermal flash duration over the wider area of destruction gives time for simple evasive action.**

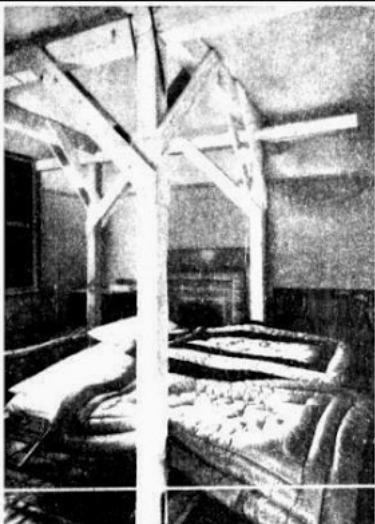


DISPLACEMENT OF WALL

NOTE THAT INELASTIC DEFORMATION BY DUCTILE MATERIAL LIKE MILD STEEL ABORBS FAR MORE ENERGY (BLUE AREA) THAN RED AREA!

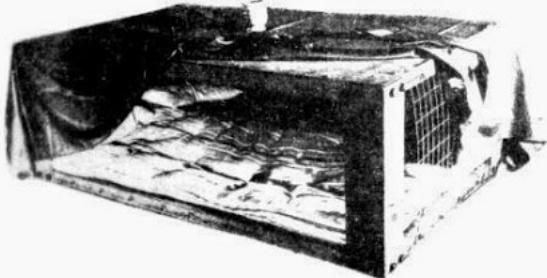
RED AREA IS PRE-BAKER SHELTER DESIGN (POOR ENERGY ABSORPTION!)

Instead of stifling cheap shelter use in the Syrian civil war and other conflicts for anti-nuclear propaganda or for endlessly advocating the end of war through diplomatic means, why not ensure 97.5% survival in totally devastated houses by using proof-tested, cheap indoor technology?



June 1941

SHELTER at home



3d. ISSUED BY THE MINISTRY OF HOME SECURITY
AND PUBLISHED BY H.M. STATIONERY OFFICE

Introduction

Not everyone wants to leave home for shelter. Some people can't. Others just prefer to remain in their own house anyway. This inclination is a natural one. It is a sound instinct too, if some protection can be found against the collapse of walls and ceilings.

Shelter indoors allows you to sleep at night in reasonable security and the warmth and comfort of your house. It also provides handy cover should there be a sudden raid in the day time.

A direct hit cannot be guarded against in any form of home shelter, the risk of such a direct hit is very small compared with that of a bomb bursting near enough to damage the house or to demolish it. Protection can be obtained in a house even if a bomb demolishes most of it.

The walls, floors and roof of an ordinary house give quite a lot of protection against splinters and blast from a bomb. The idea of an indoor shelter is to make use of this protection and to add safeguards against the other effects of bombs.

The chief of these is the danger of the house falling down. People have often been rescued unhurt from the ruins of demolished houses because they had taken shelter under staircases, or tables, that had by chance been strong enough to protect them from the falling ruins of the house. The chief purpose of the indoor shelters described in this pamphlet is to protect the occupant against injury when the bedroom floor, the roof and other debris fall on them.

They do not provide such easy emergency escape as a garden shelter, but if you are trapped they protect you from the debris till the Rescue Party releases you. Very often, however, though the house has fallen you will be able to release yourself and walk out.

The indoor shelters with which this pamphlet deals are unsuitable for houses with more than two storeys above the shelter room. They are intended chiefly for use in ordinary two-storey houses, but have a margin of strength that will take the weight of an extra storey.

Above: this *Shelter at Home* manual containing cheap indoor proof-tested warm, flood-resistant shelter advice, was issued in June 1941, authorized by the new UK Home Secretary Herbert Morrison, a practical socialist and son of a Lambeth policeman, who had common sense and preferred practical, cheap, live saving countermeasures to the ivory tower left-wing outdoor, ground-water flooded Anderson shelter ideology of his predecessor, the so-called Conservative Sir John Anderson. D. C. Burn improved the timber strutting system in Ministry of Home Security Bulletin C14, to protect a refuge room against collapse, which had earlier been illustrated in a simpler way in the 1938 *Protection of your home against air raids* handbook issued to every house in England by Home Secretary Samuel

Hoare. That 1938 booklet sensibly advised using builders advice and scaffolding indoors if possible, for secure protection; the problem was that many poor people in the East End London target area really needed more complete, explosion-proof-tested advice, not just the suggestion to use expensive builders for advice or to set up expensive steel scaffolding indoors. What was needed was a diagram of the sort shown above in the June 1941 handbook (because merely propping up a roof without cross-struts causes the risk that an explosion jar may knock the props sideways, so they must be not merely strong enough to take the load, but also kept upright to provide protection).

Sir John Anderson's communist adviser, physicist J. D. Bernal, ignored all the practical experience from WWI about the flooding of trench shelters by ground water in winter, and advocated partially underground outdoor Anderson shelters (designed by engineer David Anderson, but named after Sir John Anderson, no relation). In both the 1937 Air Raid Precautions handbook number 1, *Personal Protection against Gas*, and in the 1938 householder's handbook, *The protection of your home against air raids*, indoor "refuge room" shelters were advised, based on a wealth of WWI experience of simple indoor improvised scaffolding to prevent the house collapsing on people in a selected refuge area, say a bedroom or under a strong kitchen table, and on gas proofing of rooms to both reduce vapour concentrations, and obviously to protect people from skin burns from mustard gas and lewsite (liquid droplet contamination, which acts through skin in an analogous fashion to persistent nerve gases invented in Nazi Germany). Both these are analogous to the 1980 *Protect and survive* advice of sheltering under a table or lean-to improvised shelter to survive nuclear blast and fallout.

However, this 1937-8 cheap indoor shelter option (proof tested as the photo below shows, for example), did not fit into the political ideology of the appeasement strategists, who wanted peace through surrender or diplomacy with the enemy. Thus, the "Cambridge Scientists Anti-War Group" comprising of J. D. Bernal and others published specious "no-go theorems" to close-down arguments for indoor shelters. These "no-go theorems" consisted entirely of plausible-lie sophistry, for example "ridicule" of indoor shelters by claiming that any future war would consist of blast bombs, incendiary (fire bombs of phosphorus and magnesium), and lingering mustard gas that would burn skin and make gas masks useless outdoors. By blasting and burning down houses, people would - the liars claimed - be forced outdoors where they would then be contaminated by mustard gas and lie awful, lingering deaths. Photographs and paintings from the successful surprise attack gas casualties of WWI would be used to "prove" this and induce anti-war hysteria, with "peace at any price" political bigotry. The fate of the Jews and other persecuted minorities would pale into insignificance in comparison to these fictional rantings, which even led to the gas war horror scenes in the pre-war blockbuster, H. G. Wells' *War of the Worlds* where the Nazis are portrayed as Martians who must be appeased, to avoid the extermination of life on earth by poison gas. Precisely the same "subtle" political "sci fi" agenda occurred in 1969 *Beneath the planet of the apes* where Charlton Heston ends life on earth using a doomsday nuclear weapon in order to prevent the apes - aka the Reds - from winning a Cold War. Hidden message: nuclear deterrence is too risky, so negotiate to save lives, even if that means slavery.

"Though the Government Anderson shelter issued to householders ... was structurally sound ... this form of shelter had been made ineffective by the change in the enemy's tactics. The Anderson was essentially a trench shelter ... it shared all the other drawbacks of trenches. It would have been tolerable if ... the enemy raids had been of short duration. However, when the pattern of all-night alerts was established, as happened in London in September 1940 [and in August 1945 in Hiroshima and Nagasaki, when repeatedly daily B-29 weather plane surveys of the cities by the 509th Group from Tinian Island, at attack time for weeks before the bombs eroded the credibility of Japanese air raid warnings for those cities, as recorded by the 509th commander, Col. Tibbets, in his 1978 book *The Tibbets Story*], it was obvious that the Anderson shelter was quite unsatisfactory. ... I approached the Chief Engineer's Branch with the proposal that a shelter should be designed to accommodate a family inside its own house. ... No reply was made ... I persisted firmly but politely ... Nothing happened for some weeks, then a reply ... came from Mr Osmond, a ... senior administrative officer ... It said that ... it was impossible to provide safe shelter inside a house; this had been established in 1938 by a panel of eminent engineers. I was referred to Command Paper 5932. ... The Report had been drawn up by David Anderson, doyen of British civil engineers ... the most successful consulting engineer of his time."

- Lord Baker, *Enterprise Versus Bureaucracy: The Development of Structural Air Raid Precautions During the Second World War*, Pergamon, 1978, pages 42-44.

The December 1938 Command Paper 5932 by David Anderson, which was finally debunked by Lord Baker in 1941, recommended the outdoor Anderson shelters that became waterlogged during the autumn-winter 1940 blitz, and contained a list of no fewer than seven separate no-go theorems that attempted to disprove the safety of indoor shelters (mainly culled from J. D. Bernal's science fiction scare mongering propaganda books).

As Lord Baker proves in chapter 6 of *Enterprise versus Bureaucracy*, all seven "no go theorems" claim to disprove the safety of indoor shelters are specious. To summarize why they are all completely wrong in a nutshell, Anderson's 1938 Cmd. 5932 falsely claimed that:

- (1) house refuge rooms would be too small and would prevent the room being used for other purposes (**nonsense, says Lord Baker, just strengthen a bedroom and use it as normal; any room can be strengthened with a strong distortion-resisting wooden frame or steel scaffolding as the 1938 handbook *The protection of your home against air raids*;**)
- (2) a house is useless because the windows would be blown, so flying glass or debris from the explosion will be a danger (**nonsense, says Lord Baker, since simple wire mesh was proved strong enough stop heavy debris from entering the sides of the shelter, and anyway for the refuge room you place the shelter where the walls provide the best protection, and you can protect the windows in that particular room very easily with boards or furniture arranged to catch the flying glass as advised in handbooks such as the 1938 *The protection of your home against air raids* or the 1941 *Shelter at Home*);**)
- (3) the rigid shelter would be knocked down through the floor (**nonsense says Lord Baker, the shelter will absorb impact energy through deformation and thus won't pass on the same amount of impulse that it receives, cushioning the blow like a car crumple zone or bumper and not being simply knocked downwards with the same impulse that it receives!);**)
- (4) the shelter would be moved and distorted (**nonsense, says Lord Baker, who cares about a bit of distortion or movement provided the people inside are safe and sound? Besides, absorbing energy through structural distortion is vital for a shelter to cheaply absorb energy and thus save lives. A shelter which undergoes no distortion is a death trap that doesn't absorb energy and passes on massive accelerations to the shelter occupants, resulting in large forces and injury or mortality.);**)
- (5) the people in an indoor shelter will be trapped by debris and suffocated by dust or a lack of air (**nonsense, says Lord Baker, a table can be vacated from any side, and you can always simply keep sheets or handkerchiefs and crowbars or similar tools in the indoor shelter to help you avoid dust and escape quickly. Civil defence critics always try to exploit data on "trapped" casualties from the 1940 air raids before the Morrison indoor shelter was introduced and before mechanical cranes were used for quick and easy heavy rescue. Thus, people "trapped" in Morrison shelters were uninjured and**)

could release themselves quickly in most cases, as proved by the data.);

(6) incendiary bombs combined with high explosives would collapse and then burn houses so people trapped will be fried alive (**nonsense, says Lord Baker, only one person out of 119 people in indoor shelters within collapsed houses died as a result of burns, and even then it was due to a fire brigade error when the sprayed the flames with water, causing scalding water to flood a shelter that was otherwise surviving the fire from the house debris above, because heat rises instead of falling as academics who are ignorant of the facts always seem to naively assume; the same applies to nuclear ignition of curtains in the top floors of buildings in nuclear attacks, where the fire doesn't spread downwards contrary to "9/11 evidence" because the nuclear bomb doesn't deliver thousands of gallons of burning aviation fuel that can be carried downwards to lower floors by gravity; likewise, the "evidence" of people burned alive by peacetime gasoline car fires where clothing is soaked by gasoline before being ignited is not applicable to the ignition of clothing by nuclear attack, where it can be easily rolled out without injury as proved at Hiroshima and Nagasaki and nuclear tests**); and

(7) the indoor shelter occupants would be gassed, perhaps by the escape of gas from ruptured gas mains because gas masks do not absorb methane, etc. (**nonsense, says Lord Baker, this supposes that a collapsed house magically forms a sealed chamber around the indoor shelter that allows a gas concentration to build up, in fact this is just total nonsense and while the shelter would keep out droplets of liquid mustard, lewsite or sarin nerve agent, it would not seal in toxic gases so gas masks are adequate once the dust settles.**)

"If the occupants could not escape immediately they ran no danger of suffocation since the side panels prevented debris covering them ... if anyone trapped had their hands free, and so could cover their faces, as they instinctively did [handkerchiefs or any cloth could be used over the mouth and nose], this was sufficient to prevent injury from dust. **The risk from fire was not serious;** the dust and debris thrown up were most effective in putting out fires. [After Winston Churchill, the Prime Minister, was given an explanation by Baker on 31 December 1940 that "energy absorption" by an indoor shelter's distortion would CHEAPLY save lives, whereas mere "structural strength" for shelters was would not save lives cheaply, he approved 500,000 Morrison shelters.] ... The day may have been won, but unfortunately even the Prime Minister's instructions to make half a million in three months did not automatically produce the materials for the job. The ... wire in wartime belonged to the Admiralty who were not anxious to part with any. Home Security was told that no wire was available ... Those days of working with the supply department ... were not pleasant ... There was no feeling of co-operating to produce the best possible shelter. Whenever a deadlock was reached, the attitude at Headquarters was, 'Well, Baker, that puts *your* shelter out. ... When debris struck the [wire mesh] panel it bent inwards and brought this bottom length of wire hard up against the ferrule [see diagram below] on the bolt, so that the full tensile strength of the vertical wires could be developed to resist the pressure of the debris. The brilliance of this simple piece of production engineering was that it enabled the side panel to be opened by hinging not only about its top edge, but alternatively, about its bottom edge. [Hence the debris-stopping wire mesh panels on shelter sides enabled easy escape not only from any side of the shelter but also from any edge of the panel if debris was jammed against any part of a panel! This was always ignored by Morrison shelter "critics" who falsely claim that the side panels would hinder escape or would not exert their full structural strength in stopping debris!] ... It was a structure for which the materials were available to make half a million within the next three months and one simple enough for mass production without taxing the resources of the steel fabricating industry or straining the tax payer excessively, yet efficient enough to save the occupants of any house reduced to ruins ... they could be fitted together by unskilled labour, usually by Boy Scout volunteers."

- Lord Baker, *Enterprise versus Bureaucracy: The Development of Structural Air Raid Precautions During the Second World War*, 1978, pages 51-57.

The point is, gas proof rooms keep the liquid droplets of persistent "gas" like mustard or nerve agents sarin and VX, off the skin, while the gas mask keeps the vapour out of the eyes and lungs, so the two in combination - staying indoors and using a gas mask - are mutually compatible and if a window breaks you can stay clear of the windows and still have protection against the rain of droplets of persistent nerve liquid droplets; the Nazis invented nerve gas from 1938 onwards and never used it because we could retaliate with mustard and we could retaliate credibly because we had simple, effective civil defence. The tendency to discount gas masks as useless against skin contamination and to discount refuge rooms as not being gas resistant if windows are broken by blast is sophistry, since it ignores the fact about the liquid rain of contamination that a house protects against, regardless of damage, and the fact that toxic vapours - once the rain of droplets has been kept outdoors - are far more damaging to the eyes and lungs than to the skin, so that once you protect the skin from droplets by being under cover, the gas mask then gives a very high protection factor. Soldiers are issued protective clothing to wear against liquid droplet sprays or very high concentrations of vapor for long periods of time. Indoors, gas masks are sufficient. It is thus easy to identify the fear-mongering dogmatic supporters of (or even generators of) hysterical terror (i.e. real "terrorism"), who *deliberately exploit ignorance in order to try to pretend that there is no cheap defense available to gas attack or radiation, blast or fire*.

They all do so because they religious believe in some "alternative" to civil defence, such as military retaliation to escalate the war, or an ever increasing budget for secret spies to try to prevent attacks by infiltrating and somehow understanding the minds of the lunatic enemies on the basis that only spying can prevent 9/11 or Pearl Harbor and not civil defence and that any failures of spying have a simple fool-proof solution which is called "*increase the spying budget again until it is big enough to guarantee peace-in-our-time*", or more often they believe in increased budgets for Nobel Peace Prize lobbies that call for more money to be given to themselves to study the hope of passing more and more laws and policing of corrupt foreign terror regimes, who simply ignore or violate those laws, like Hitler and Stalin did. The problem of "simply policing" international laws then effectively falls back into the problem Britain faced in 1914 and 1939, i.e. you can't enforce any international law without a world war. All the "pacifist" sophistry in the world is just a camouflage for escalating violence, whether this is named "ethnic cleansing" or attacking civil defence. All these people actually profit from terrorism, that is, they profit from the failure of their own schemes, because they are rewarded for failure with more money. So all have a massive interest in blocking realistic, cheap civil defence against terrorism! Because of the hatred directed in the media towards all forms of life-saving civil defence which are cheap, realistic, and highly effective, liars received public cheers and election votes from persuading Hitler to sign a worthless "peace treaty"; whereas humanitarian, honest and decent people were attacked using ignorant, conceited, groupthink lynch mob tactics and called a warmonger if they even dared to promote a practical way to stop carnage.

Any exposure of the facts is dismissed/ignored by using attacks on the person/presentation, instead of simply and honestly discussing the relevant facts themselves (facts are all important, opinions or presentation tricks are not the stuff that matters and anyone who prefers to discuss presentation to the facts is missing the point or deliberately engaging in self-indulgent egotism/drivel rather than keeping to the hard facts of science).

Campaigns were launched by CND's Phil Bolsover and other communist supporters to attack proven civil defence to popular acclaim from comedians on BBC TV in the early 1980s, thus they are the war-mongers for all intents and purposes, launching scare-mongering hate campaign attacks on scientific civil defence for their own profit or the profit of their deluded politics:

2.5% of people were killed in cheap indoor Morrison shelters in houses subjected to total collapse (Baker, 1978).

23.5% of people were killed while ducking and covering in houses subjected to total collapse (RC450, 1945).

61.9% of people were killed when caught totally unprepared in houses subjected to total collapse (S118, 1946).

See also https://archive.org/details/Anderson_shelter as well

as <https://archive.org/details/BritishNuclearTestOperationHurricaneDeclassifiedReportsToWinston>

and <http://archive.org/details/TheEffectsOfTheAtomicBombOnHiroshima>

posted by nige @ 9:46 pm **0 comments**

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Glasstone and Dolan, *The Effects of Nuclear Weapons* (1977), on page 546, give the following data on survival after exposure to radiation in Hiroshima and Nagasaki. The distance from ground zero was 0.12 miles for concrete buildings, 0.25 miles for people outdoors. The median distance in modern cities is 0.3 miles in the open country and 0.12 miles in modern cities. The difference in survival probability is thus a factor of 120. Hence, modern city dwellers face 120 times the casualty risks of being outdoors in the open country. In modern cities, the factor of 120 is reduced to 11 due to the presence of concrete buildings, which reduce the radiation dose received by people outdoors. The factor of 11 is reduced to 10 due to the presence of other factors such as clothing and shelter.

From Dr Glasstone and Dr Dolan, *The Effects of Nuclear Weapons*, 3rd ed., page 63. Between 0.3 and 0.5 miles from ground zero, the average survival rate is at least 20 days. After a nuclear explosion, more than 20 percent of those in reinforced concrete buildings, almost 90 percent of those in nearly 800 ordinary buildings, survived more than 20 days, although some suffered radiation injuries of approximately 100 roentgens. Students who were in and unshielded areas of ground zero survived about 90 percent or more, or missing at least 20 days. But of nearly 10,000 people in the same areas who were shielded in one building or another, only 10 percent of fatalities. ... In Hiroshima and Nagasaki, buildings at distances greater than the overexposure radius of 0.12 miles from ground zero had open windows and doors. That is, the area of open windows and doors was 15 square inches per person. That is, the area of open windows and doors was 15 square inches per person. Protection could have been provided in saving lives, perhaps up to ten times.

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(e.g., Bridgeman's *Introduction to Nuclear Weapons*, which includes chapters on design to ensure radiation output calculated prior to prevents up-to-date nuclear effects; justify civil defense against latest nuclear weapons; widely disseminated are printed for government a problem with that widespread understanding information for countermeasures.



*The evidence indicates that both injured a buildings later [caused by the charcoal brazing breakfast in iron houses filled with bamboo furniture screens] were moved to safety after the explosion. Of buildings studied at Strategic Bombing Center 107 were ultimately destroyed. ... Of those structures, 20 percent were destroyed in the first half hour. Some were consumed completely as late as two hours after the blast. This is unlike the one-based fire spread described for

- Defense Civil Agency, U.S. Defense, *Defense Civil Environment Protection 3: What the Public Know About Nuclear War Spread*, report, June 1973, Part I.

*It is true that we have tested weapons of a yield higher than which we thought, but the 100-kiloton weapons which they say

ago does not change the strategic position. The United States has deliberately, on more modern and efficient weapons, but entirely : - President John F. Kennedy in his television speech to the American people, 1963.

'During World War II, in large cities in America and Japan we suffered terrific attacks by incendiary bombs and incendiary bombs when proper steps were taken for the protection of civilian population. After restoration of peace, the purpose of the incendiary bombs, their evidence of the facts concerning the incendiary bomb, and to scientific analysis. It is hoped that although it may not be completely to be least be possible to do so.'

– Dr George E. Glasstone and Philip J. Hirschfelder, *The Effects of Nuclear Weapons*, p. 1, Paragraph 1, Department of Defense, September 1962.

'The consequences of multiweapon strikes would certainly be disastrous. Nevertheless, it would be possible if carried out to inflict order and to inflict economic dislocation.'

- Philip J. Morrison, *Nuclear Weapons Capabilities and Effects*, Weapons Division, Research Institute of the U.S. National Council on Radiological Protection (NCRP) synthesis, *Control of Effects of Nuclear Weapons on the Public in the Event of an Attack*, 1981.

'Suppose the Hiroshima had been as powerful ..'

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About 93% of them
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[Source: C. R.
Telander, *Seminars in
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... The highest
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incidence of thyroid
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in 1987.

'This rate increased
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cancers was 50
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populations (for example, the population of 100,000 persons is 35,600 persons). Thus the prospect of integrated diagnostics, the potential for cancer [fictitious] "experiments. In a was performed active screening was determined incidence rate other thyroid greater by 21 been in the period [Source: Z. Jia, *Century Science & Technology*, issue 1, p. 14]

**W. L. Chen,
C. Shieh, S.
Kung, K. L.
T. S. Chou, S.
Wu, C. P. Su
M. F. Wu, a
‘Is Chronic Iodine Effective Prevention for Cancer?’, published in *Journal of American Physicians and Surgeons*, Vol. 9, No. 1, page 6, available at [format here](#):**

‘An extraordinary increase occurred 20 years ago in Taiwan. Recovery from an accidentally contaminated cobalt-60 (Iodine-131) gamma radiation source, which had been in construction sites of 180 buildings, involved 1,000 persons occupying the buildings for years. They underwent radiation averaging 0.4 mSv, with a dose of 4,000 mSv on the observation group. Deaths, the cause of which for this population was found to be 3.5 per 1,000 children. Three hundred children with congenital malformations were observed, prevalence rate being 1,000 children.

‘The average annual cancer death rate per population of 100,000 persons is 11. Upon partial observation of hospital experience, the prevalence rate of congenital malformations among 1,000 children is 1,000 children per 1,000 children and income d

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'All these points against the basic claim of Lewis of a link to leukemic excess in time. Unhappy to claim for Lewis others have done what is possible to cause narrow limits from leukemia in the population from fall-out or other radiation' [Lewis, *Science*, vol. 125, p. 1957]. This is journalese.

'The burning question is not what are the links between leukemia to bombing with atom bombs, but what is to be expected from natural background. Furthermore, of these, I believe that those which go to [1950s] atomic bomb rate effect are different from those from neutrons. Radiations are different [i.e., from neutrons] from those important, the outstandingly important ones.'

Samuel Glasstone and J. Dolan, *The Effects of Nuclear Weapons*, 1977, pp. 61

'From the early days of radiation-induced mutations made with fruit flies, the Laureate Hertha Ayrton, and other geneticists, working on plants, who found that insects and plants, like mammals like man, were affected. In June 1957 U.S. Hearings on the subject it appeared that there was a frequency of mutation in given populations proportional to the dose. More recent work has shown that'

mice, however these conclusions were revised, at least [Mammals are closer to humans than short-lived life cycles are have forced development DNA repair unlike mammals survive for decades reproducing. X-rays or gamma mutation frequency animals has been dependent on dose) rate ...

'At an exposure rate of 1 R/hour], the frequency in indistinguishable spontaneous [Emphasis added] seems to be threshold being radiation-induced are absent ... mice ... a delay weeks between substantial doses either neutron and conception mutation frequency offspring to do ... recovery in members of the family would bring a reduction in the mutations in successive generations.'

George Bernard Shaw explains group bias:

'We cannot help being so constituted. We believe finally what we believe. The reason we believe something is that we see all the arguments become blind against it. The reason we disbelieve something is that we previously believed it and discovered not enough evidence in favor of it. The mass of evidence that this evidence is wrong in the face of all the other evidence.'

From the essay 'Is Science?' by P. Feynman, presented at the fifteenth annual meeting of the National Science Association, 1965, City, and published in the *Physics Teacher*.

1968, pp. 31.

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odorless, tasteless gas that has uncounted thousands of deaths every year. Most cases are caused by inhalation of the gas. The dangers of dilute DHMO exposure do not end there. Exposure to it can cause severe tissue damage, including DHMO ingestion, excessive sweating, and possibly death. Nausea, vomiting, electrolyte imbalance, and possibly death have been reported in people who have become severely ill from DHMO with no known antidote.

From the site of the accident, against dihydrogen monoxide, we can see that the government is failing to help stop the spread of this dangerous substance. Get the government to do something now to prevent further contamination. Contaminated water is a major concern. Epidemic proportions of monoxide have been reported almost everywhere, and reservoirs are still being found today. But the problem is global, and it has even been found in Antarctic ice. It has caused millions of dollars in property damage in the Midwest, and California.

A recent example of pseudoscience in the field of 'education' is the claim that radiation from above-ground nuclear tests in the 1960s was responsible for an increase in the proportion of children with leukaemia in Britain. In an article published in the journal 'Natural Radiation and Health' in 2009, the authors falsely asserted that the evidence contradicted the results of the study at Nagasaki and Hiroshima. They claimed that the survivors had been exposed to radiation from the atomic bombs, including plutonium, which raised the risk of leukaemia. However, the study was based primarily on Japanese survivors of the bombs, and the exposure to radiation was not limited to plutonium. The background radiation levels in Japan were also higher than in the United States, where the study was conducted. The study received widespread media coverage, including a front-page article in the New York Times.

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This prevents being repaired prevents cancer mutation causing DNA - from radiation of cancer P53 repair mechanism it cannot repair occur, so multiple appear and DNA are wrong P53, causing cancer risk.

1. DNA-damaging agents are equivalent to natural sparks which naturally.

2. Cancer is equivalent to you get if the fire ignites the gas free radicals and damage DNA damage being

3. Protein P53 is like a fire suppressor constantly dousing sparks, or repairing DNA so that damage does not occur.

In this way of thinking, 'cause' of cancer is due to a failure of an enzyme like p53 to repair the damage.

Dr Jane Orient
Security for
Journal of American Physicians and Surgeons
11, number 2, March 2006, pp. 75-9.

'In the 1960s, physicians called for "Social Responsibility" and undertook to inform the medical profession about the dangers of nuclear weapons," beginning with a series of articles in the *New England Journal of Medicine*. [Note that just before publishing in the journal, Dr. Orient had been involved in anti-civil defense work back in 1949 in volume 24 of the *New England Journal of Medicine*, which suggests that she was involved in nuclear war planning.] In 1961, she wrote that "hopeless because the burned patient required 42 liters of plasma, whole blood, and fluids, 4,300 nurses and 2

only unclothed line of shadowing can area burns from radiation, self-cover offers nuclear attack. G. V. LeRoy published, *in J.A.M.A.*, 1947, pp. 11-12. than 5% of those in Hiroshima area were caused by debris fires. always possessed vast resources who are fatal mass casualties. doctors should just because unlimited resources Hiroshima area they would not best with what its website, which group boasts campaign to end nuclear testing campaign, the Linear Nothreshold (LNT) theory of carcinogenesis entrenched. It to calculate effects of potential cancer risk and the population of enduring consequences perceived risk far out of proportion risks, causing damage to the industry. ... Endemic diseases were not only Any suggestion could be survival likelihood and tantamount to PSR spokesman

'For the mind: and enables them to jeopardizes the United States as the lives of citizens, some physicians and medical organizations heavy responsibility'

'Ethical physician ready to help of their ability sacrificing the political agenda basic knowledge combined with inexpensive preparations countless lives'

Dr Theodore

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J. K. S. Clay of the U.K. Home Scientific Adviser stated in his introduction to *The Challenge of Defence?*, to Office Scientific Branch Training Scientific Ad

'Since 1945 very few wars - in Korea, Vietnam, between India, China and Pakistan, between Arabs and Israel on occasions. When confrontations between West over Berlin and Cuba. There have been wars or rebellions in eleven countries threatened invasion five. Whilst it is true that all these incidents resulted in many deaths, they indicate the ability of a country to resort to a military solution to its problems, with success. ...'

It is estimated that invaders exterminated Chinese between 1937 and 1945 without modern Communist Chinese million dissenters. In May 1967 detailed data on Russians on 750,000 Soviet communists killed 40 million mainly owned by between 1914 and 1945 (non-nuclear) killed 600,000. In World War II. The strategic raid on Tokyo in March 1945 killed 100,000.

(more than the bombs on Hiroshima and Nagasaki combined; less than the 60,000 people killed by the nuclear bomb raids on Germany during World War II killed

House of Lords
Nuclear Weapons
Declaratory Statement in Hansard,

Lord Hailsham of Marylebone: we are going to seek thereby to make nuclear arms difficult, if not impossible, to develop. Is there not a public majority that Passchendaele were all right? The parties—any party—is something unacceptable.

Lord Trefgarne: the policy of the rest of the world for conventional war that I support.

House of Commons
Civil Defence
Hansard, 26 October 1956

Mr. Bill Waller (South North): ‘I remember that more people died at Stalingrad than at Nagasaki, about fighting in Europe than in Europe, but it was unacceptable. The demonstration of called peace against a coalition of Europe, but nothing but gory carnage. It would certainly at Stalingrad be acceptable. It wants peace.

On 29 October 1956, Mr. Waller stated of the Soviet Union: ‘Every decade since the days of Soviet leader Stalin has reminded that the ideology of communism is maintained only by force. Every day comes with frustration of the great that force. Then the edifice of communism crumbles, liberty will disappear from the side of the world.’

On 22 November 1983, Nover said: "Today, ... where the traditional security from conventional forces and the Warsaw Pact where the Berlin Wall was torn down and the Iron Curtain at an end. These changes did not happen by chance. They were achieved by us, resolution in despite our refusal ever to

'The case for a nuclear deterrent'
stands regarding a nuclear deterrent necessary or not. In the U.K., we would be powerless to defend ourselves from a nuclear attack crossing the Atlantic Ocean. Canute to stand up to the U.K. Home Office Civil Defence

"... peace can never be absolute. No one is certain, no matter what this or any other country were to adopt, that the United Kingdom would not be attacked. Also, what form such a conflict would take. Current analysis suggests that if a conflict did break out it would be over a period of conflict of uncertain duration or might not even occur. Conflict ... will weapons exist at all? There is a chance, however small, that they will be used as gas bombs in a conflict between other countries. We were not involved in a nuclear war on a neutral side, nor on a neutral side, nor on a conventional side. An option that is suggested. It has been forgotten that some 50 million people died in conventional conflicts, gone on killing fields from 1945 without

Minister of Defence (Lord Carrington)
House of Lords
Civil Defence Authority
Regulations, 1983.
444, cc. 523-1983.

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The RAND C
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1968, pp. 15.

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to the measure of the H_0 cosmological acceleration outward from the universe which is accurately inferred from observational data since 1999 (by Perlmutter et al.). This finding is consistent with an outward and inward relative motion law. The theory allows quantitative predictions, by gravitons, of the gravitational interaction in a way (unlike general relativity) which is just 10^{500} different from other theories and any falsifiable theory about gravity must be nuclear explosive and provide helpful natural features. The mainstream model of cosmology is force-fitted and speculative and ignores and suppresses major questions which increase understanding particularly for the relation of existing electrodynamics to the U(1) section of the Standard Model of fundamental interactions.

Richard Lieven Leemans
Department of Physics, University of Alabama, Tuscaloosa, AL 35487
cosmology: lambda-CDM suppression of acoustic evidence, and how it can really lead to a new theory using all evidence available.
<http://arxiv.org/abs/1307.5091>

Even Einstein himself considered the possibility that the Lambda-CDM model is just a classical approximation to a quantum field theory. In the last years of his life when he was working on the theory of gravitation with Besso in 1950, he wrote:

'I consider it a great error that physics cannot yet be based on a [classical differential] field principle. In my opinion, the theory of gravitation remains of my life the most beautiful and satisfactory one, [non-quantum] theory included.'

'Science is the best way to dispel skepticism in the mind of an expert opinion,' said Richard P. Feynman, the Nobel laureate theoretical physicist, Professor Lecturer at the California Institute of Technology. *Trouble with the Sun*

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in space: the atmosphere shield equivalent protects us from water 10 m reduces the background factor of 100 be without the atmosphere, largely uninhabited Earth's magnetic field protects us from cosmic radiation deflected and spiralling around field at high Van Allen radiation belts. On the example, the atmosphere's magnetic field background exposure rate minimum is per hour (about microSievert) times that outside milliRoentgen, about 0.10 microSievert. Apollo astronauts Moon wore a spacesuit they received 275 milliRoentgen, 2.75 milliSievert radiation (with exposure to the background over just 19 hours), more than the solar flare, which concerns for avoiding (micro) another concern spacesuit).

The higher you are above sea level, the thinner the atmosphere becomes and space radiation shielding you from the space radiation becomes less. The thermonuclear explosions called 'stars', a supernovae, become visible from sea level, the atmosphere constitutes a mass of 10 tons per square centimetre or the equivalent of 10 metres thickness between you and space. As you go up in an aircraft, the atmosphere and space do not provide radiation levels at the same altitude because of the atmosphere's shielding. The background radiation dose is

exposure rate factor of 20, 0.20 milliRo when any aircraft from sea level cruising altitude obsolete British supersonic transports maintain radar equipment so drop to lower routes if exceeded radiation due were detected get more radiation than many nuclear workers at nuclear power plants. Residential altitude city 100 milliRöntgens (milliSievert) exposure than Washington, mainstream cranks don't want city to be shown radiation except mountain climbers banned, etc.'

1994 revised Kearny's Nuclear Survival Skills Teller, January

'If defense is the best weapons of a country, it is effective. The most desirable imperialist dictatorship means are limited mass destruction equalizers between large and small, high primitive, if developed. If defense is developed, it makes available prevention of aggression which is desirable. The war itself less psychological mechanism against forget about it is common as it may turn a minor fatal difficulty.'

Advice of Robert Watson-Watt (Chief Scientist of Britain during World War II British Royal Air Force defending Britain against German attacks): 'Given the best to go on, the best comes to those who never comes.'

From Wikipedia (groupthink): type of thought process group members use to minimize conflict

consensus without testing, analysis, evaluating it, creativity, until independent in the pursuit of cohesiveness advantages of balance in climate that might not be obtained by as a group. In groupthink, a group avoids viewpoints outside the comfort zone of thinking. A voter for this may desire to avoid foolish, or a embarrassing other member. Groupthink is to make has decisions, while doubts are seen as upsetting balance.'

Links

- ◆ Google
- ◆ Dr Carl Sagan's theory and
- ◆ The Atoms for Peace Foundation
- ◆ Radiation Research Society data together benefits of radiation in Nagasaki and Hiroshima
- ◆ DTRA on Reduction of nuclear testing history
- ◆ Samuel Phillips and Philip J. Morrison
- ◆ Carl F. O'Donnell research about
- ◆ British Journal of Scientific & Industrial Research
- ◆ Samuel Phillips about the consequences of averting, instead of neutron bombs and the lying attacks he resulted in
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- ◆ Essays on American

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done at nucleon level that Chuck Hines and CDs give quotation from Hines's book *Grounds for Survival*. In 1952 Mike Hines nearby Englewood, Florida, states that he survived both fallout, despite his belief that he had been exposed to radiation.

- Quantum theory
- Los Alamos
- Excellent gauge theory
- Force interaction
- Alamos Science

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